REPORT

OF THE

MEDICAL OFFICER OF HEALTH

ON THE

HEALTH

OF THE

CITY OF BIRMINGHAM

FOR THE YEAR **1907.**

BIRMINGHAM:
HUDSON AND SON, PRINTERS, EDMUND STREET AND LIVERY STREET

Health Department,
The Council House,
Birmingham.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.

Gentlemen,

I beg to submit the Annual Report on certain statistics bearing on the health of our City for the year ending December 28th, 1907.

The fact that the general death-rate of the City was 16·1 per 1,000 during 1907 indicates that the year was distinctly a favourable one. The average mortality rate for the past three years was 16·3 per 1,000. This constitutes a distinct and important record.

As has been pointed out in former reports, the death-rate for the City does not accurately represent that for the town as a whole, for nearly one-half of the population of this centre has overflowed into the districts surrounding the City. The mortality for the area of greater Birmingham in 1907 was 14·3 per 1,000, and for the last three years it was 14·5. I doubt whether there is another complete area of population of similar size which can show a much better general record than this.

The death-rates from the seven principal zymotic diseases, from infantile diseases, from phthisis, and from diarrhœa constitute records which the Health Department are glad to point out.

The need for further improvement in saving human life is great. Our infant mortality rate was 147 per 1,000 births—a record. It ought, however, to be much less. The organisation which is in operation for dealing with this matter, and which is constantly being improved, is showing already some good results, and in relatively a short time we hope to be able to show still better results.

I feel strongly that the recognised standard under which a large number of the people live falls very much short of what it ought to be. While it is impossible to directly associate any particular condition with high mortality, the group of conditions under which these people live does have a serious effect on their health, and particularly on the health of the rising generation.

Largely these people are to blame for their thriftlessness and dirty conditions. How best to prevent these conditions in our large towns is one of the most difficult problems of our age.

Early in September, Dr. McCrindle, who had acted with great acceptance as Assistant Medical Officer of Health, was appointed as Medical Officer of Health for Northampton. Dr. Buchan took his place here on December 2nd, 1907.

The work of the staff is all that I can desire, and to your Committee and to the staff I wish to tender my best thanks for loyal support in the working of so many-sided a department as this.

I am, Gentlemen,

Your obedient servant,

JOHN ROBERTSON.

POPULATION.

Population.

The Registrar-General estimated the population of Birmingham on the 30th of June, 1907, to be 553,155 persons, and for local statistical purposes this figure has been used throughout this report.

It is probable that this population is from 15,000 to 20,000 in excess of the number of people who actually reside in Birmingham. If this is so, the error in mortality and other rates in this respect is probably about 3 per cent.

Populations and areas of wards.

The estimated population of each Ward based on the number of occupied houses is shown in the subjoined table, together with the acreage, and the average number of persons per acre.

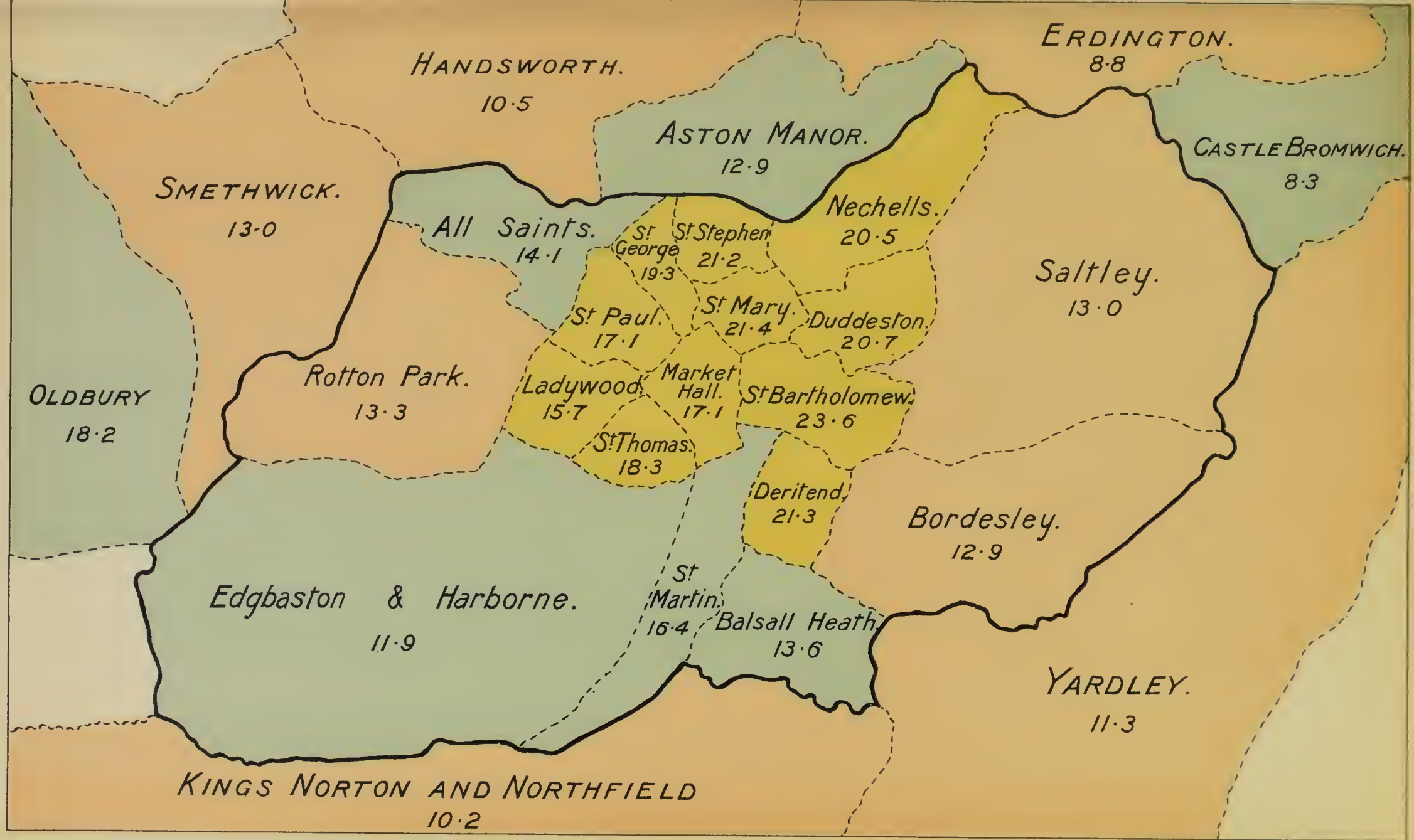
WARD.	Area in Acres.	Population 1907.	Persons per Acre.
Rotton Park	1,233	50,788	41·2
All Saints'	532	43,959	82·4
Ladywood	249	24,815	99·7
St. Paul's	264	14,483	54·9
St. George's	120	20,080	167·3
St. Stephen's	169	23,275	137·7
St. Mary's	184	13,386	72·7
St. Bartholomew's ...	313	23,043	73·6
Market Hall	229	8,930	39·0
St. Thomas'	179	17,361	97·0
St. Martin's	468	24,116	51·5
Edgbaston and Harborne	3,407	33,215	9·7
Deritend	279	23,180	83·1
Bordesley	1,387	61,032	44·0
Duddeston	299	23,049	77·1
Nechells	512	32,314	63·1
Balsall Heath	463	40,269	87·0
Saltley	2,352	53,524	22·8
Whole City	12,639	553,155	43·8

Occupied houses in wards.

In the next table is indicated the number of occupied houses in each of the wards during the years 1896-1907, together with a statement as to the increase or decrease in the number of houses in the particular wards. (See Table overleaf.) Approximately there is an area in the centre of Birmingham of 2,800 acres, more than one-fifth of the whole area of the City, which is becoming year by year less populous. The distribution of this area is shown on the chart opposite the next page, which also indicates what the death-rate was in each of the municipal wards and in the suburbs of Birmingham.

OCCUPIED HOUSES.

Ward.	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	Increase or Decrease in 12 years.
Rotton Park	8354	8615	8739	9079	9442	10199	10041	10215	10383	10573	10761	11065	+ 2711
All Saints'	7827	7853	8075	8549	9028	8847	8939	8996	9195	9024	9084	9393	+ 1566
Ladywood	5703	5692	5605	5639	5645	5627	5634	5662	5669	5570	5539	5564	- 139
St. Paul's	3762	3718	3688	3650	3630	3187	3316	3318	3341	3314	3217	3088	- 674
St. George's	4577	4572	4585	4670	4632	4572	4623	4618	4621	4604	4627	4543	- 34
St. Stephen's	4749	4741	4864	4913	4882	4963	4952	4962	4930	4861	4809	4859	+ 110
St. Mary's	3174	3262	3205	3230	3237	3308	3325	3378	3297	3233	2888	2783	- 391
St. Bartholomew's ...	5195	5134	5119	5315	5326	5297	5301	5241	5089	4884	4865	4545	- 650
Market Hall	2429	2363	2362	2372	2335	2109	2094	2075	2005	1980	2068	1954	- 475
St. Thomas'	4050	4056	4030	4088	4170	4201	4067	4061	4106	4062	3958	3799	- 251
St. Martin's	5150	5163	5170	5216	5260	5220	5250	5233	5331	5373	5213	5254	+ 104
Edgbaston & Harborne	5734	5863	6056	6289	6373	6386	6473	6496	6491	6432	6801	6891	+ 1157
Deritend	5269	5305	5415	5370	5248	5232	5194	5101	5118	5026	5036	4911	- 358
Bordesley	9412	10231	10869	11179	11514	11703	11907	12168	11905	12519	12809	13069	+ 3657
Duddeston	4795	4921	5240	5082	5132	5060	5026	4977	4958	4946	4847	4873	+ 78
Nechells	6757	6771	6869	7036	7021	7012	6955	7023	6947	6841	7020	6732	- 25
Balsall Heath	8200	8250	8419	8547	8650	8700	8750	8825	9000	9061	9183	9029	+ 829
Saltley	5720	6188	6764	7242	8053	8340	8715	8960	9223	9333	10019	10557	+ 4837
City	100857	102698	105074	107466	109578	109963	110562	111309	111609	111636	112744	112909	+12052


Handsworth.
10·5
Erdington.
8·8
Aston Manor.
12·9
Castle Bromwich.
8·3
Smethwick.
13·0
All Saints.
14·1
St George
19·3
St Stephen
21·2
Nechells.
20·5
Saltley.
13·0
St Paul.
17·1
St Mary.
21·4
Duddeston.
20·7
Oldbury
18·2
Rotton Park.
13·3
Ladywood.
15·7
Market Hall.
17·1
St Bartholomew.
23·6
St Thomas.
18·3
Deritend.
21·3
Bordesley.
12·9
Edgbaston & Harborne.
11·9
St Martin.
16·4
Balsall Heath.
13·6
Yardley.
11·3
Kings Norton and Northfield
10·2
Population Decreasing
Increasing Moderately
Increasing Rapidly

The conditions under which people live in the centre of Birmingham are so exceedingly unpleasant that it is a wholesome sign to see that such a migration of population is actually going on, and over such a large area. As has been pointed out in previous reports, the effect of this migration is to swell in a somewhat extraordinary manner the population of the areas immediately around the city, some of which have increased within the last five years by as much as 50 per cent. It will be noted that in most of the old wards which are being depopulated the death-rate is a high one, while in all of the rapidly-increasing areas round the outskirts of Birmingham the mortality is low.

MARRIAGES.

Marriage rate.

The number of marriages registered during 1907 was 5,154, as compared with 4,939 in the previous year, and 4,744 in 1905. The marriage rate for 1907 was 18·7 per 1,000. Chart No. 2 shows the marriage rates in the Birmingham, Aston, and King's Norton Registration districts as percentages above and below the mean rate for the past 35 years. It will be seen that the year under review had a rate slightly below the mean.

BIRTHS.

Birth-rate.

There were 15,619 children born in Birmingham in 1907, as compared with 16,016 in the preceding year, and 15,795 in 1905. The rate per 1,000 of the population was therefore 28·3, against 29·3 per 1,000 in 1906, and 29·2 in 1905. Thirty years ago the birth-rate in Birmingham was on an average 40 per 1,000. During the last three years it has averaged 29, a decline of 27 per cent. The main part of this reduction is undoubtedly due to voluntary restriction placed on the number of children born, and as such it is one of many indications of the desire for ease and luxury on the part of the people. While the Birmingham figure for 1907 is the lowest ever recorded here it is not so low as that found in certain of the largest towns :—

Birth-rates in large towns.

	Birth-rate per 1,000.
London	25·6
Liverpool	31·8
Manchester	28·7
Leeds	24·9
Sheffield	30·9
Bristol	24·3
West Ham	28·6
Bradford	20·0
Newcastle	29·7
Hull	28·8
Nottingham	26·8
Salford	29·2
Leicester	23·2
Portsmouth	27·9

Birth-rate (*continued*).

The birth-rate in Birmingham follows closely what is occurring elsewhere in England. The Registrar-General in his annual summary states that the rate for the whole of England was 26·3 per 1,000, which is the lowest yet recorded for this country, compared with an average during the previous ten years of 28·4.

In the 76 great towns the rate was 27·0 per 1,000, as against 29·1, 28·2, and 27·8 per 1,000 in the three preceding years. The birth-rate ranged from 16·6 per 1,000 in Hastings, 17·0 in Hornsey, 17·3 in Bournemouth, 17·4 in Halifax, 20·0 in Bradford, and 20·6 in Northampton, to 33·0 in Coventry, 33·6 in Warrington, 34·2 in St. Helens and Middlesbrough, 34·3 in Sunderland, 35·9 in Merthyr Tydfil, and 37·1 in Rhondda.

Birth-rates in wards.

The birth-rate has varied very much in different parts of the City, and these variations are set out in the table below, where the rates are shown since the year 1904 :—

BIRTH-RATES IN WARDS.

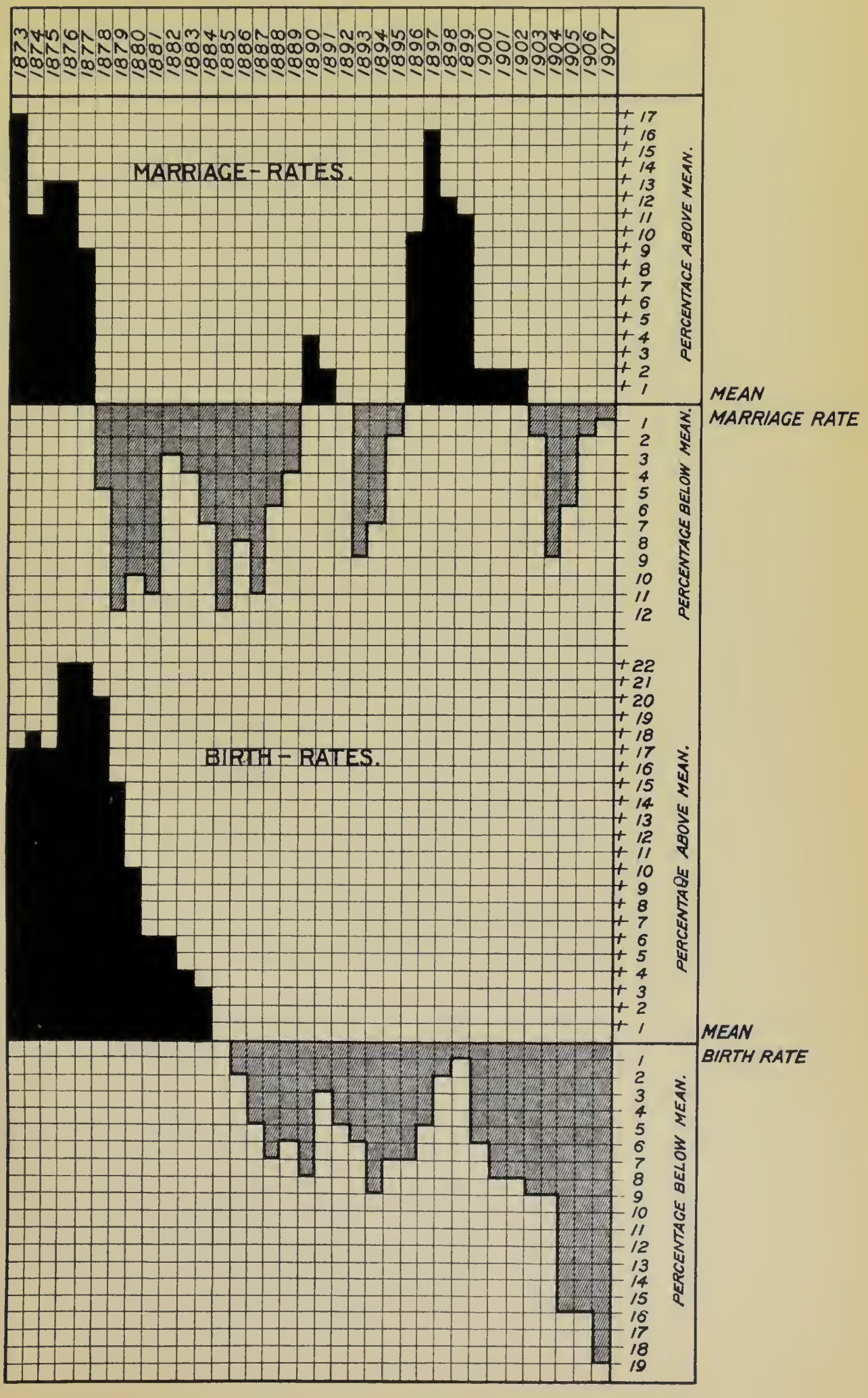
	1904.	1905.	1906.	1907.
Rotton Park	31·7	28·3	28·7	25·2
All Saints'	32·5	32·1	31·6	30·8
Ladywood	32·5	28·9	30·5	29·4
St. Paul's	27·6	26·1	26·1	24·5
St. George's	37·7	33·9	34·9	34·3
St. Stephen's	37·8	34·8	36·9	35·0
St. Mary's	26·9	27·2	29·9	27·6
St. Bartholomew's ...	37·4	34·6	33·8	35·8
Market Hall	21·6	23·8	19·6	16·9
St. Thomas'	31·6	29·5	30·8	32·8
St. Martin's	28·7	24·4	26·0	25·9
Edgbaston and Harborne	19·4	19·7	18·6	19·2
Deritend	35·3	34·9	34·8	34·3
Bordesley	30·8	27·5	26·6	27·2
Duddeston	37·2	33·8	37·3	34·5
Nechells	36·3	36·3	36·1	36·4
Balsall Heath	27·1	27·0	24·3	25·8
Saltley	35·0	32·2	32·6	29·3

The lowest birth-rate was 16·9 per 1,000 in Market Hall Ward, but the resident population and number of births in this ward are extremely small, and the birthrate is probably fallacious. Apart from this, the Edgbaston and Harborne rate is the lowest. The birth-rate corresponds closely with the class of people who live in the various areas, and if it were possible to make a class birth-rate it would be found that in the middle and upper classes the rate is extremely low.

The birth-rates in previous years compared with the mean birth-rate are shown in the lower diagram on chart 2.

CHART No. 2.

MARRIAGE-RATE AND BIRTH-RATE, 1873-1907.



DEATHS.

The deaths of 8,879 persons belonging to Birmingham were registered during the year, as compared with 9,172 in 1906, and 8,718 in 1905. The death-rate for 1907 was, therefore, 16·1 per 1,000, which is identical with the rate in 1905. Death-rate.

The following table showing the Birmingham mortality since 1873 has been reproduced :—

	Death-rate per 1,000.	
1873	24·8	
1874	26·8	
1875	26·3	Average 24·8
1876	22·4	
1877	23·9	
1878	25·2	
1879	21·8	
1880	20·5	Average 21·6
1881	19·8	
1882	20·8	
1883	21·4	
1884	21·6	
1885	19·8	Average 20·7
1886	20·5	
1887	20·4	
1888	18·6	
1889	19·7	
1890	22·0	Average 20·4
1891	21·7	
1892	20·0	
1893	21·5	
1894	18·2	
1895	19·9	Average 20·2
1896	20·4	
1897	21·1	
1898	19·5	
1899	20·5	
1900	21·0	Average 19·8
1901	19·9	
1902	18·0	
1903	17·2	
1904	19·3	
1905	16·1	Average 17·1
1906	16·8	
1907	16·1	

It is particularly gratifying to notice that the mortality rate has been under 17 per 1,000 continuously during the last three years, and bearing in mind the character of the large artisan population in Birmingham, this rate may be considered relatively satisfactory.

Death-rates in England and Wales.

Comparative figures for England and Wales are shown below, and also those for the twenty largest towns in England during each of the past five years.

	Birmingham.	England and Wales.
1871—1875	25·2 ...	22·0
1876—1880	22·8 ...	20·8
1881—1885	20·7 ...	19·4
1886—1890	20·2 ...	18·9
1891—1895	20·3 ...	18·7
1896—1900	20·5 ...	17·7
1901—1905	18·1 ...	16·0
1906	16·8 ...	15·4
1907	16·1 ...	15·0

DEATH-RATES IN TOWNS

(FROM ANNUAL SUMMARY OF REGISTRAR- GENERAL).

Death-rates in large towns.

	1903.	1904.	1905.	1906.	1907.	Ten years 1897-1906.
London ...	15·7	16·1	15·1	15·1	**14·6**	17·4
Liverpool ...	20·5	22·6	19·6	20·6	**19·0**	22·3
Manchester	19·7	21·3	18·0	19·2	**18·1**	21·5
Birmingham	17·8	19·9	16·2	16·8	**16·2**	19·4
Leeds ...	16·6	18·0	15·2	15·6	**15·3**	18·2
Sheffield ...	18·6	16·8	17·0	16·4	**17·1**	19·1
Bristol ...	14·3	15·6	14·6	14·5	**13·2**	16·2
Bradford ...	16·4	17·6	15·2	16·1	**14·8**	17·1
West Ham	15·3	16·5	14·8	15·7	**14·6**	17·2
Hull ...	16·9	18·6	16·3	16·9	**16·1**	18·1
Nottingham	16·9	17·7	16·5	16·1	**17·5**	17·9
Salford ...	19·0	21·2	16·9	18·3	**17·7**	21·3
Newcastle ...	19·2	19·4	16·8	17·1	**15·9**	20·2
Leicester ...	14·2	14·5	13·3	14·3	**12·7**	16·0
Portsmouth	14·7	16·9	16·6	14·9	**16·0**	17·0
Cardiff ...	14·0	14·8	13·4	14·0	**15·0**	15·8
Bolton ...	17·5	16·9	15·1	15·2	**16·8**	18·0
Sunderland	19·9	19·5	18·6	18·6	**19·2**	20·4
Croydon ...	11·8	13·8	12·5	13·4	**12·4**	13·5
Oldham ...	18·6	18·2	18·0	18·8	**19·4**	19·7

Corrected death-rates.

The crude and corrected mortality rates for Birmingham and other towns are set out below, showing the relative position of Birmingham among these towns. In making the corrections for this table, the age distribution and the sex distribution have been taken into consideration, so that a town with a large number of persons at an age or of a sex when mortality is highest is compared more correctly with a town where such conditions do not exist.

CRUDE AND CORRECTED DEATH-RATES IN LARGE TOWNS.

	Crude Death-rate.	Corrected Death-rate.
Croydon	12·4	12·7
Leicester	12·7	13·5
Bristol	13·2	13·5
London	14·6	15·3
West Ham	14·6	15·6
Bradford	14·7	16·3
Cardiff	15·0	16·3
Portsmouth	16·0	16·5
Hull	16·1	16·5
Leeds	15·3	16·7
Newcastle...	15·9	17·1
Birmingham	16·2	17·4
Sheffield	17·1	18·4
Nottingham	17·5	18·4
Bolton	16·8	19·0
Salford	17·7	19·5
Sunderland	19·2	19·8
Manchester	18·1	20·1
Liverpool	19·0	20·3
Oldham	19·3	21·8

Death-rates in wards.

The mortality in each of the wards in Birmingham during the last five years has been as follows :—

DEATH-RATES IN WARDS.

Wards.	Death-rate per 1000. 1903.	1904.	1905.	1906.	1907.	Mean of 5 years.
Rotton Park ...	13·9	17·2	14·0	13·5	13·3	14·4
All Saints' ...	15·7	17·9	14·6	17·1	14·1	15·9
Ladywood ...	17·8	20·1	16·6	17·0	15·7	17·4
St. Paul's... ...	19·2	21·5	15·7	18·6	17·1	18·4
St. George's ...	20·8	21·5	18·8	19·8	19·3	20·0
St. Stephen's ...	21·0	24·7	20·0	23·4	21·2	22·1
St. Mary's ...	23·1	24·1	20·9	22·8	21·4	22·5
St. Bartholomew's	24·4	28·7	23·1	23·1	23·6	24·6
Market Hall ...	16·3	17·7	17·0	16·1	17·1	16·8
St. Thomas' ...	18·7	18·0	17·0	20·8	18·3	18·6
St. Martin's ...	16·8	18·8	16·0	17·6	16·4	17·1
Edgbas. & Harborne	12·1	12·7	11·1	11·7	11·9	11·9
Deritend	21·5	22·0	20·6	22·6	21·3	21·6
Bordesley ...	13·3	15·2	13·4	13·4	12·9	13·6
Duddeston ...	19·7	22·9	20·1	18·7	20·7	20·4
Nechells	16·9	22·9	17·9	19·9	20·5	19·6
Balsall Heath ...	13·5	14·8	12·8	12·3	13·6	13·4
Saltley	15·7	16·8	13·5	13·4	13·0	14·5
Whole City ...	17·2	19·3	16·1	16·8	16·1	17·1

Death-rates in city and suburbs.

The estimated population, number of deaths, and the death-rate in each of the districts contiguous to Birmingham will be found in the following table :—

DEATH-RATES IN BIRMINGHAM AND DISTRICT.

	1907. Population.	1907. Deaths.	Death Rates.
Birmingham ...	553,155	8,879	16·1
*King's Norton ...	75,600	772	10·2
†Yardley	52,750	582	11·3
†Castle Bromwich	2,900	24	8·3
†Erdington ...	26,633	234	8·8
*Aston Manor ...	83,266	1,075	12·9
*Handsworth ...	65,929	688	10·5
*Smethwick ...	66,467	859	13·0
*Oldbury	26,915	489	18·2
Total—Birmingham and District	953,615	13,602	14·3

* Registrar-General. † Annual Report of Medical Officer of Health.

Taking Birmingham and Aston together as one central area of population,it will be noted that in the areas surrounding this central populous part the death-rate is a very low one, due mainly to the fact that the population is an overflow from Birmingham of some of the healthiest of her people among whom the mortality is very small. Even when the separate districts of Smethwick and Oldbury, which are not in the same sense overflow districts, are included, the general death-rate is only 14·3, which is 1·8 per 1,000 below the Birmingham figure.

Death-rates at age-periods.

The highest rates of mortality occur during the first five years of life and after the age of 55. Any population, therefore, having a larger number of children than usual, or having a larger number of old people, will have a particularly high mortality rate. The rate in Birmingham for each age group during 1907, as compared with the two preceding years, will be found below :—

Age Groups.	Death-rate per 1000. 1905.	1906.	1907.
Under 5 years ...	55·1	59·4	52·6
5 and under 10 years ...	3·4	3·9	3·8
10 ,, 15 ,, ...	2·0	1·9	1·8
15 ,, 20 ,, ...	2·5	2·2	2·4
20 ,, 25 ,, ...	3·1	2·9	2·8
25 ,, 35 ,, ...	5·2	4·8	4·9
35 ,, 45 ,, ...	10·2	10·2	10·4
45 ,, 55 ,, ...	16·7	16·6	17·9
55 ,, 65 ,, ...	33·1	33·6	34·4
Over 65 years ...	89·0	94·6	93·9

INFANT MORTALITY.

Infant mortality.

The infant mortality rate is based on the number of children under 12 months old who died during the year per 1,000 of the children born in the City during the same period. There were during 1907 2,300 deaths of children under one year of age, as compared with 2,686 in the previous year, and the infant mortality rate was 147 per 1,000. The infant mortality rate for 1907 is the lowest recorded since our statistics were first published.

In the appended table are set out the general death-rate and the infantile mortality rate for each year, and in groups of five years since 1873 :—

Year.	General Death-rate per 1000 living.		Infant Mortality Rate (Deaths under 1 year per (1000 births).	
1873	24·8	Average	181	Average
1874	26·8		178	
1875	26·3	24·8	196	176
1876	22·4		160	
1877	23·9		164	
1878	25·2		170	
1879	21·8		150	
1880	20·5	21·6	178	163
1881	19·8		150	
1882	20·8		165	
1883	21·4		159	
1884	21·6		174	
1885	19·8	20·7	157	169
1886	20·5		176	
1887	20·4		178	
1888	18·6		154	
1889	19·7		171	
1890	22·0	20·4	184	169
1891	21·7		171	
1892	20·0		166	
1893	21·5		198	
1894	18·2		164	
1895	19·9	20·2	182	191
1896	20·4		197	
1897	21·1		214	
1898	19·5		190	
1899	20·5		193	
1900	21·0	19·8	199	185
1901	19·9		188	
1902	18·0		157	
1903	17·2		158	
1904	19·3		195	
1905	16·1	17·1	155	165
1906	16·8		168	
1907	16·1		147	

It will be noted that considerable fluctuations have taken place in past years in this rate, and these fluctuations are largely due to climatic conditions.

Infant mortality in wards.

The mortality in the various wards of the City has varied greatly. In the better class districts, and in the districts where the careful and intelligent artisans live, the death-rate is much lower than where ignorance, carelessness, and poverty exist. Year after year certain wards are among the highest in the City, while with equal regularity certain others are always among the lowest.

WARDS.	Infantile Mortality Rate per 1000 Births.			
	1904.	1905.	1906.	1907.
Rotton Park	178	134	136	135
All Saints'	173	126	166	129
Ladywood	192	160	157	133
St. Paul's	225	138	185	158
St. George's	213	151	161	150
St. Stephen's	232	177	222	199
St. Mary's	331	201	207	200
St. Bartholomew's	263	207	268	198
Market Hall...	187	186	195	199
St. Thomas'	196	164	199	135
St. Martin's	185	179	185	160
Edgbaston and Harborne	133	131	117	100
Deritend	208	205	201	179
Bordesley	146	131	132	119
Duddeston	217	171	158	171
Nechells	219	161	192	166
Balsall Heath	150	113	117	98
Saltley	178	140	130	125
City	195	155	168	147

Infant mortality in large towns.

In comparing the infant mortality in Birmingham with that of other large cities, it must always be borne in mind that a large percentage of the healthiest part of the Birmingham population has overflowed its boundaries and that we get in these overflow areas low mortality rates. For instance, in King's Norton the rate was 103, in Handsworth 101, and in Yardley 88.

The infant mortality rates in the 20 largest towns and in the 7 large districts nearest to Birmingham during 1907 were as follows :—

INFANTILE MORTALITY

IN 20 LARGEST TOWNS AND IN 7 LARGE DISTRICTS NEAREST TO BIRMINGHAM.

	1907.	Average, 1896-1907.
London	116	148
Liverpool	144	180
Manchester	146	182
Birmingham	**147**	**182**
Leeds	130	170
Sheffield	145	180
Bristol	100	137
Bradford	124	160
West Ham	131	166
Hull	127	169
Nottingham	165	181
Salford...	140	188
Newcastle	123	166
Leicester	131	174
Portsmouth	123	151
Cardiff	131	145
Bolton	146	156
Sunderland	130	165
Croydon	94	130
Oldham	144	166
King's Norton	103	100
Yardley	88	126
Erdington	80	148
Aston Manor	125	173
Handsworth	101	108
Smethwick	117	153
Oldbury	162	—

The causes of death of infants under one year of age during the past ten years will be found in the table below :— Chief causes of infantile deaths.

CHIEF CAUSES OF DEATHS OF INFANTS UNDER ONE YEAR IN BIRMINGHAM IN 1907 AND EIGHT PRECEDING YEARS.

Causes of Death.	1899	1900	1901	1902	1903	1904	1905	1906	1907
Measles	53	35	62	37	50	47	40	46	81
Whooping Cough ...	74	129	81	122	37	210	72	105	63
Diarrhœa	670	475	634	327	462	764	364	667	188
Enteritis	442	331	154	78	84	92	126	151	116
Tuberculous Diseases	91	114	129	98	111	93	75	54	70
Premature Birth ...	366	353	348	361	365	377	304	321	318
Debility & Marasmus	574	670	648	562	531	569	536	453	458
Convulsions ...	194	178	167	172	119	144	128	98	120
Bronchitis, Pneumonia, and Pleurisy ...	398	500	399	409	413	505	380	356	441
Suffocation... ...	92	92	92	70	95	96	75	85	78
All other Causes ...	444	489	436	445	401	405	351	350	367
Total ...	3398	3366	3150	2681	2668	3302	2451	2686	2300

Details of the mortality during 1907 are given in the following table :—

INFANTILE MORTALITY DURING THE YEAR 1907.

Deaths from stated Causes in Weeks and Months under One Year of Age.

Cause of Death.	Weeks.				Total under 1 Month.	Months.											Total Deaths under One Year.
	0	1	2	3		1	2	3	4	5	6	7	8	9	10	11	
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chicken-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	..	..	1	..	1	2	..	..	2	2	5	7	15	11	18	18	81
Scarlet Fever	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1
Diphtheria: Croup	..	..	..	..	..	..	..	..	..	..	..	1	1	2	2	1	7
Whooping Cough	..	..	1	..	1	4	6	7	3	8	4	6	6	8	3	7	63
Diarrhœa, all forms	..	..	1	3	4	18	19	29	16	15	14	18	19	12	15	9	188
Enteritis (*not Tuberculous*)	1	6	2	7	16	20	21	11	11	12	6	6	6	2	2	3	116
Gastritis	1	2	2	1	6	7	8	8	7	2	4	3	..	1	..	..	46
Premature Birth	211	35	25	12	283	25	4	4	1	1	..	..	..	..	..	..	318
Congenital Debility and Defects	110	46	43	25	224	42	12	6	3	1	4	3	..	1	1	..	297
Injury at Birth	4	3	..	..	7	1	..	..	..	1	..	..	..	..	..	..	9
Want of Breast-milk	..	1	1	3	5	4	9	1	4	3	..	1	..	..	..	1	28
Atrophy, Debility, Marasmus	..	..	..	..	..	50	38	35	35	27	13	14	7	9	3	4	235
Tuberculous Meningitis	..	..	..	..	..	..	..	3	3	1	2	2	3	3	4	2	23
Tuberculous Peritonitis Tabes Mesenterica	..	..	2	..	2	2	7	4	..	3	4	..	5	1	2	2	32
Other Tuberculous Diseases	..	..	..	..	..	1	1	1	2	3	1	.	3	..	2	1	15
Erysipelas	..	..	..	..	..	1	2	1	..	..	..	1	..	..	..	..	5
Syphilis	..	..	1	2	3	6	7	..	4	2	..	1	.	2	..	..	25
Rickets	..	..	..	..	..	..	1	2	..	1	3	2	1	3	4	..	17
Meningitis (*not Tuberculous*)	..	1	..	..	1	2	4	1	4	7	7	5	4	2	..	5	42
Convulsions	13	10	9	3	35	24	13	8	11	5	6	7	5	1	2	3	120
Bronchitis	..	4	2	10	16	34	29	19	16	14	15	9	13	8	9	6	188
Laryngitis	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..
Pneumonia	4	1	5	2	12	21	17	19	26	28	19	19	20	23	26	23	253
Suffocation, overlaying	2	6	5	1	14	21	9	9	7	8	1	3	..	1	..	..	73
Other Causes	8	5	5	4	22	11	8	9	7	7	12	10	10	13	6	3	118
	354	120	115	73	652	296	215	177	162	151	120	119	118	103	99	88	2300

Births in the year—legitimate 15,236, illegitimate 383 ; Deaths from all causes at all ages—8,879 ; Population estimated to middle of year—553,155.

The causes of infant mortality.

There can be no doubt that infant mortality is unnecessarily high in all our town districts. Probably in the case of Birmingham it may be taken that in a record year like 1907 at least 1,000 deaths took place among children under one year of age that ought not to have occurred, and these were of children who were in the main of healthy constitution, and who ought not to have died but for the fact that they were placed in conditions inimical to life. Everyone who has looked into the question of infant mortality cannot but be struck with the waste of healthy life which occurs annually. There is not, however, complete unanimity as to the chief causes in operation, and the chief remedies to be applied. The experience in Birmingham, where there is a large staff of Health Visitors who are constantly visiting homes where births have recently occurred, and who see and hear how

the infants are treated while alive, as well as make enquiries into the circumstances attending the deaths of many of these infants, leads one to the conclusion that there is not one general cause in operation, but rather that the causes are numerous, and are mainly the result of ignorance and carelessness on the part of parents. The causes of infant mortality (*continued*).

In the first place the health of a considerable number of children is lowered by reason of insufficiency of nourishment on the part of the mother preventing her from giving suitable and sufficient breast milk to the infant. As a cause of death this may not be so important as others, but it is one of great importance to the nation, because many of the children thus seriouslyunderfed probably have permanent injury done to their health although they do not die. In many such cases the inability of the mother to supply sufficient nourishment necessitates depriving the child of its natural food, and thereby exposing an already enfeebled child to the grave risks which this method of feeding involves among the poorer classes.

Undoubtedly the greatest of all causes of infant mortality is the ignorance of the parents as to how children should be reared. Among the evidences of ignorance which are most apparent are those relating to want of knowledge of the standard of cleanliness required to rear a healthy infant. It is insufficient that the body of the infant should be washed, and the clothes kept clean ; a dirty house or dirty outside surroundings to the house, or food contaminated by dirt, probably play the most important part in the causation of the mortality among infants.

The remedy appears to be mainly one of educating the mothers, and this of necessity must be a slow process. The work of the Health Committee in employing the services of paid Woman Health Visitors who can give sensible advice to mothers is undoubtedly in the right direction. The Notification of Births Act, 1907, will enable such visits to be paid at a time when advice may most opportunely be given. The Act has been adopted by the City of Birmingham, but only came into operation on the 1st of March, 1908. In addition to the assistance given by the Health Visitors, the Corporation have appointed a Lady Doctor who will visit babies born in one large and poor district in Birmingham, and it is hoped that her skilled advice will be very helpful in preventing mortality.

INFECTIOUS DISEASE.

Nine hundred and ninety-two deaths were due to one or other of the seven principal zymotic diseases, as com- Zymotic mortality.

Zymotic mortality (*continued*).

pared with 1,521 in 1906, and 1,051 in 1905. This gives a zymotic death-rate for the year of 1·80 per 1,000, which is also the lowest rate on record. The number of deaths from these diseases will be seen in the following table, together with the averages for the preceding ten years :—

Disease.	1907.	Average, 1897 to 1906.	Above or below Average.
Smallpox	0	2	− 2
Measles	323	228	+95
Scarlet Fever	96	103	− 7
Diphtheria	100	117	− 17
Whooping Cough	188	241	− 53
Typhoid Fever	48	89	− 41
Diarrhœa	237	710	− 473
Whole Group	992	1,490	− 498

Zymotic death-rates in large towns.

Of the 76 great towns, 24 had a higher zymotic death-rate than Birmingham, the highest rates being in Hanley (2·40), Bolton (2·49), Wigan (2·60), Sheffield (2·64), Middlesbrough (2·85), and St. Helens (2·99), while the lowest were recorded in Hornsey (0·55), Hastings (0·48), and Bournemouth (0·23).

SMALLPOX.

Smallpox.

For the second year in succession no case of smallpox was reported. Several suspicious cases came to our notice, and a good many travellers, sailors, or soldiers returning from abroad were notified from the port of debarkation as having been in contact with cases of smallpox, but none of these developed the disease.

VACCINATION.

Vaccination.

The official figures as regards vaccination are not obtainable for more recent years than 1904, and these are set out for the three registration districts which Birmingham touches and for England and Wales in the following table, which shows the percentage of infants not finally accounted for :—

	Registration Districts of Birmingham.	Aston.	King's Norton.	England and Wales.
1884 ...	2·4	5·5	2·1	5·5
1885 ...	4·3	6·8	2·8	5·8
1886 ...	4·6	7·6	2·5	6·4
1887 ...	5·5	8·6	3·0	7·1
1888 ...	4·9	8·7	4·3	8·5
1889 ...	5·8	9·1	4·7	9·9
1890 ...	5·8	10·1	5·5	11·3
1891 ...	8·3	13·5	11·0	13·4
1892 ...	7·9	13·7	19·2	14·9
1893 ...	6·5	12·1	21·3	16·1
1894 ...	8·0	13·2	27·3	19·2
1895 ...	7·6	14·9	23·3	20·5
1896 ...	7·7	14·4	19·1	22·9
1897 ...	9·0	14·5	25·7	22·7
1898 ...	14·6	17·5	28·5	21·5
1899 ...	16·7	14·8	23·2	17·2
1900 ...	15·4	13·2	18·3	15·6
1901 ...	13·2	12·2	12·8	13·0
1902 ...	10·0	12·2	9·3	11·6
1903 ...	8·4	11·1	7·1	10·7
1904 ...	6·9	9·7	5·7	10·2

The uncorrected figures for the City of Birmingham for the year ending June 30th, 1907, were as follows :—

Births returned	15,873	
Conscientious objections... ...	104 or	0·7% of total.
Died unvaccinated	1,718	
Successfully vaccinated	12,375 or	87·4% of survivors.
Postponed by medical certificate	190 or	1·3% ,,
Removed to other vaccination districts	164 or	1·2% ,,
Lost sight of	1,128 or	8·0% ,,
Still under notice...	126 or	0·9% ,,

MEASLES.

During the year 1907 measles was particularly prevalent at a time of the year when lung complications are liable to occur, with the result that 323 deaths occurred, and the death-rate from this disease was equal to ·59 per 1,000, as compared with ·42 in 1906. Measles.

The mortality in 1907 and in the ten previous years is shown below :—

Deaths from Measles.

1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
414	182	196	130	300	189	195	207	239	227	323

Measles deaths at ages

The ages at which death occurred are set out in the following table for the last five years :—

	1903	1904	1905	1906	1907
Under 1 year ...	50	47	40	46	81
1 and under 2 years ...	74	75	96	91	109
2 ,, 3 ,, ...	26	37	47	43	60
3 ,, 4 ,, ...	21	18	29	17	32
4 ,, 5 ,, ...	12	11	13	15	23
All under 5 ,, ...	183	188	225	212	305
5 and under 10 ,, ...	12	17	13	15	17
All over 10 ,, ...	0	2	1	0	1

No figures are available as to the number of cases of measles which occurred during the year. Were such available they would indicate that the ages at death do not correctly indicate the age incidence and extensive prevalence of the disease. In other towns where notification of this disease has been in operation it has been clearly demonstrated that any measures which have for their object the delaying of the attack of measles until the child is over five or six years of age greatly reduce the mortality.

Measles and infants' schools.

The disease is largely one associated with attendance at public elementary schools. During the year many school outbreaks were noted, and the infants' departments closed for a time.

On June 11th, 1907, a report was presented to the Health Committee as follows :—

" The epidemic of measles, which I believe cannot last very much longer in its virulent form, is one of the severest that we have had. During the first five months of this year there have been 270 deaths from this disease. Very largely the mortality depends upon the period of the year in which the epidemic occurs. The lowest number of deaths during any of the past ten years was 130, and the highest number was 414.

" We have no accurate information as to the number of cases that occur. Probably in this respect Birmingham differs little from other towns, where it is found that measles is epidemic once every two years. This regularity is not indicated by the Birmingham statistics during the past few years, but formerly it was a regular thing to have a bad measles year, and then one with a smaller mortality.

" At the present time the school teachers send us lists of children who are away with suspected measles. In a good many cases the school teachers do not at first know the cause of absence of a child, and only hear casually at

Measles and infants' schools (*continued*)

the end of seven or eight days, so that many of the notifications received from the teachers are late. The information, however, which we get in this way is most useful, and in the vast majority of cases the teachers have carried out the instructions extremely well.

"When such an intimation is received the Health Visitor calls at the house and leaves printed directions to parents. As regards the schools it has been found that in the poorer class districts such a large percentage of the children in the Infants' Department have already suffered from measles that when they pass from the infants' into the boys' or girls' departments the disease does not spread among them if introduced. To a less extent this is noticeable in the better class elementary schools also.

"Undoubtedly the assembly of infants in the infants' department of a school acts as a spreader of measles. When a large percentage of the children in an infants' department have been away on account of measles, it has been customary both in the Council Schools and in the non-provided schools to close the infants' department. This is quite properly done mainly to prevent the average attendance falling below the point at which the Government grant would be seriously affected. School closure under these conditions is of doubtful value as a preventive measure, because all the children who are going to have the disease have probably already become infected. Many medical officers and school authorities have attempted to deal in some more effective way with this disease, but so far as I am aware no very good result has followed. I would suggest that as a possible means of lessening the spread of infection the Education Committee be asked to instruct teachers to distribute the following notice to all the children in any infants' class whenever a case of measles occurs in that class :—

"'City of Birmingham.

"'Education Committee.

"'..... School,

"'.....190 .

"'Sir or Madam,

"'A case of measles has occurred in the class at the above school in which your child is a scholar. I am desired, on the suggestion of the Medical Officer of Health, to ask you to continue to send your child to school unless any of the early signs of measles are noticed, such as sneezing, running at the eyes and nose, a general appearance of having caught a cold, and probably a feeling of being out of sorts.

Measles and infants' schools (*continued*).

" ' If you notice any of these signs within the next ten days, it will be well to keep your child away from school and in a warm room (preferably in bed) for three days, by which time you will be able to decide whether measles is going to develop or not.

" ' It is most important in preventing the spread of measles that the first signs of the disease should be noted, and the child kept at home.

" ' The receipt of this notification will not entitle a parent to keep his child away from school without definite reason.

" ' Yours faithfully,

" '.....

" ' Head Teacher.

" Such a notice distributed by the teacher to every child in a class will at least give the parents ample warning of what may happen. If this does not have the desired effect, perhaps later it may be advisable to institute some method of automatically closing the class by the teacher as soon as the first case of measles occurs."

The scheme suggested has proved itself to be extremely valuable in better class schools where parents do not abuse the information given them. In public elementary schools the danger of such a notice being abused is considerable, and the Education Committee in giving their sanction to the experiment in such schools in Birmingham very properly suggested that a report should be made at intervals on the progress of the work. One such report was drawn up during the year, and was as follows :—

" City of Birmingham.
" Health Department,
" The Council House,
" January 13th, 1908.

" Dear Sir,

" Prevention of Measles in Infants' Departments.

" In accordance with your Committee's instructions, I have now to report on the working of the experiment which was suggested in regard to the above. It will be remembered that an attempt was to be made to limit the spread of measles in the Infants' Departments of certain schools by allowing the teacher to distribute circulars to the children in any class in which a case of measles occurs, informing their parents of the occurrence and asking them to keep their children under special observation during the period mentioned in the circular. Four schools were selected in which to try the experiment, and it was thought desirable to keep special observation on the occurrence of measles in the infants' departments of four other schools which would act as a control experiment.

"Measles was not prevalent during the autumn term in regard to which the present report relates, having been acutely prevalent in Birmingham about a year ago.

"In the first instance we have ascertained the measles history of each child in the schools under observation, and it will be noted from the accompanying table, that the percentage of children who had already had an attack of measles has varied from 65 in Floodgate Street school to 81 in Icknield Street school. It will also be seen that the classes containing older children and showing the highest percentage of scholars who have had measles has varied from 96 per cent. at City Road school to as low as 66 per cent. at Floodgate Street school.

"In the baby classes, on the other hand, a large percentage of the children have not had measles. In these classes the highest percentage of children who had had measles was 85 per cent. at City Road, and the lowest was 48 per cent. at Floodgate Street school, that is to say, among the babies at Floodgate Street school more than one-half of them had not had measles, and were therefore presumably susceptible.

"Without a knowledge of these percentages it will be impossible to compare the schools under observation with those used as controls, because obviously when the percentage of immune children is high the chance of measles spreading is comparatively slight.

"In the schools experimented with there were 1,213 children on the register, while in the control schools there were 1,476. The percentage of children who had had measles in the experimental schools was 74, and in the control schools it was 76.

"Nine cases of measles occurred amongst the infants during the autumn term, September to December, and seven other cases were reported in brothers or sisters of infants attending these schools. Notices were issued to whole classes on four occasions, and as a result no children were kept away on suspicion.

"If any conclusion can be drawn from so small experience, it is that the issue of the notices if properly done does not influence the attendance to any important extent.

"It will be necessary to continue the experiment for a year or two until after the experience gained by an epidemic is obtained, and as arranged I will continue to report at the end of each term as to what has happened.

"Yours faithfully,
"(Signed) JOHN ROBERTSON.

"J. A. Palmer, Esq.,
"Secretary, Education Department,
"Edmund Street."

TABLE

SHOWING PERCENTAGE OF CHILDREN WHO ARE SAID TO HAVE SUFFERED FROM MEASLES PRIOR TO DECEMBER 21ST, 1907, IN THE WHOLE SCHOOL, AND IN EACH CLASS IN EACH INFANTS' DEPARTMENT :—

School.	Whole School.	Classes.						
Oldknow Road	77 ...	78	91	71	73	60		
Floodgate Street	65 ...	66	83	60	56	48		
City Road ...	78 ...	88	96	79	71	56	53	85
Summer Lane...	67 ...	76	71	74	65	72	47	59
Somerville Road	70 ...	82	78	69	54	55		
Rea Street ...	73 ...	78	80	75	74	70	55	
Icknield Street	81 ...	91	86	85	80	67		
Nelson Street ...	80 ...	81	89	81	78	57		

Period of highest mortality from measles.

The mortality from measles began to increase in the latter part of 1906 and reached its maximum in March, April, and May in 1907. The deaths in four-weekly periods were as follows :—

DEATHS FROM MEASLES.

Four weeks ending	Oct.	6th, 1906	... ...	11
,,	Nov.	3rd ,,	... ...	11
,,	Dec.	1st ,,	... ...	25
,,	Dec.	29th ,,	... ...	21
,,	Jan.	26th, 1907	... ...	22
,,	Feb.	23rd ,,	... ...	47
,,	March	23rd ,,	... ...	55
,,	April	20th ,,	... ...	57
,,	May	18th ,,	... ...	53
,,	June	15th ,,	... ...	43
,,	July	13th ,,	... ...	17
,,	Aug.	10th ,,	... ...	9
,,	Sept.	7th ,,	... ...	8
,,	Oct.	5th ,,	... ...	4
,,	Nov.	2nd ,,	... ...	2
,,	Nov.	30th ,,	... ...	2
,,	Dec.	28th ,,	... ...	4

SCARLET FEVER.

Scarlet fever.

Two thousand five hundred and twenty-two new cases of scarlet fever were brought to the notice of the Health Department during the year 1907, an increase of 708 on the previous year. The number of deaths occurring during the year was 96, giving a fatality rate of 3·8 per cent.

One of the accompanying charts shows the number of notified cases each year since the Notification Act came into operation, the number of deaths, and the percentage mortality. In the other chart the fortnightly incidence of scarlet fever since 1901 is indicated.

CHART No. 3.

SCARLET FEVER.

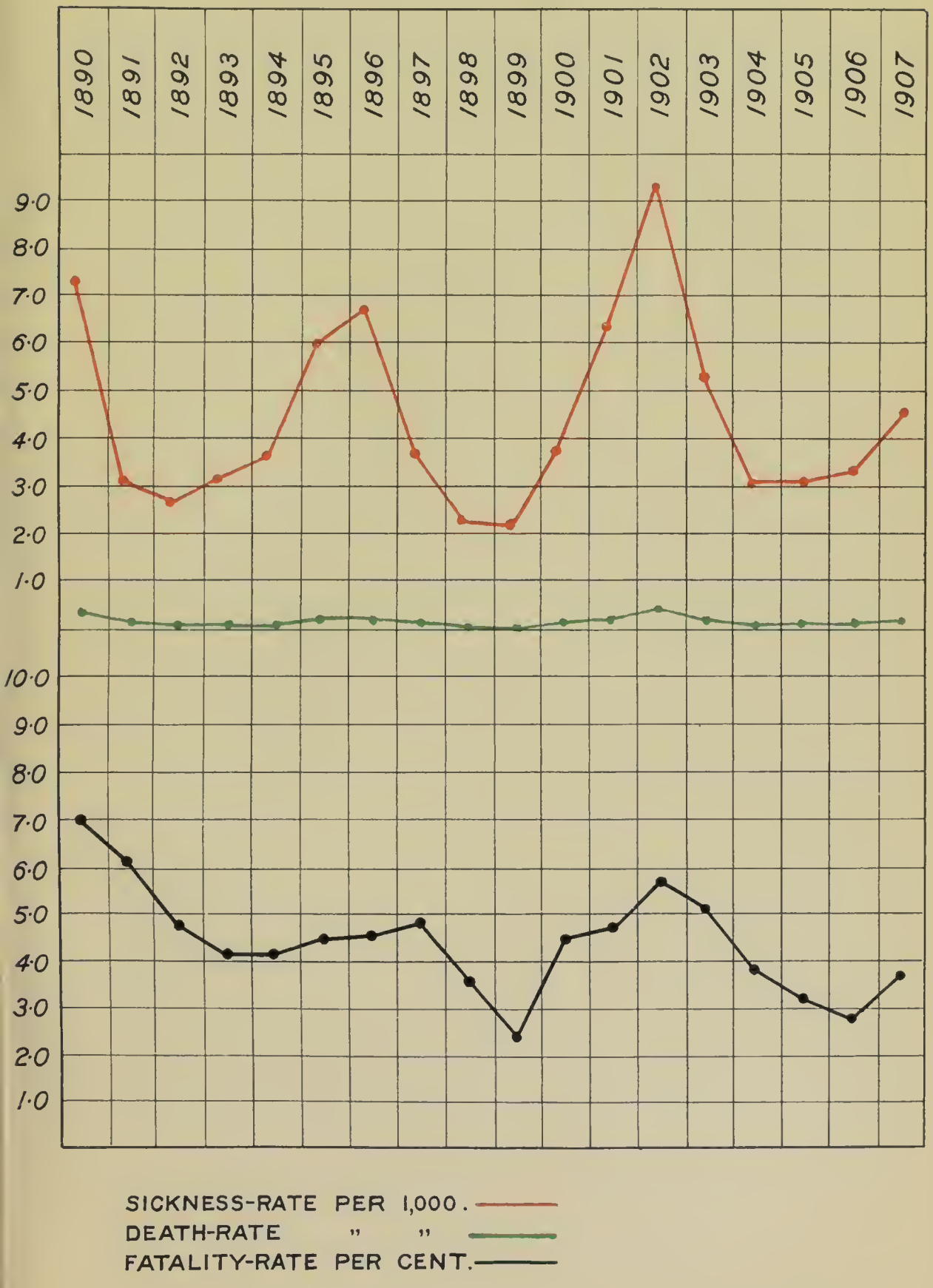
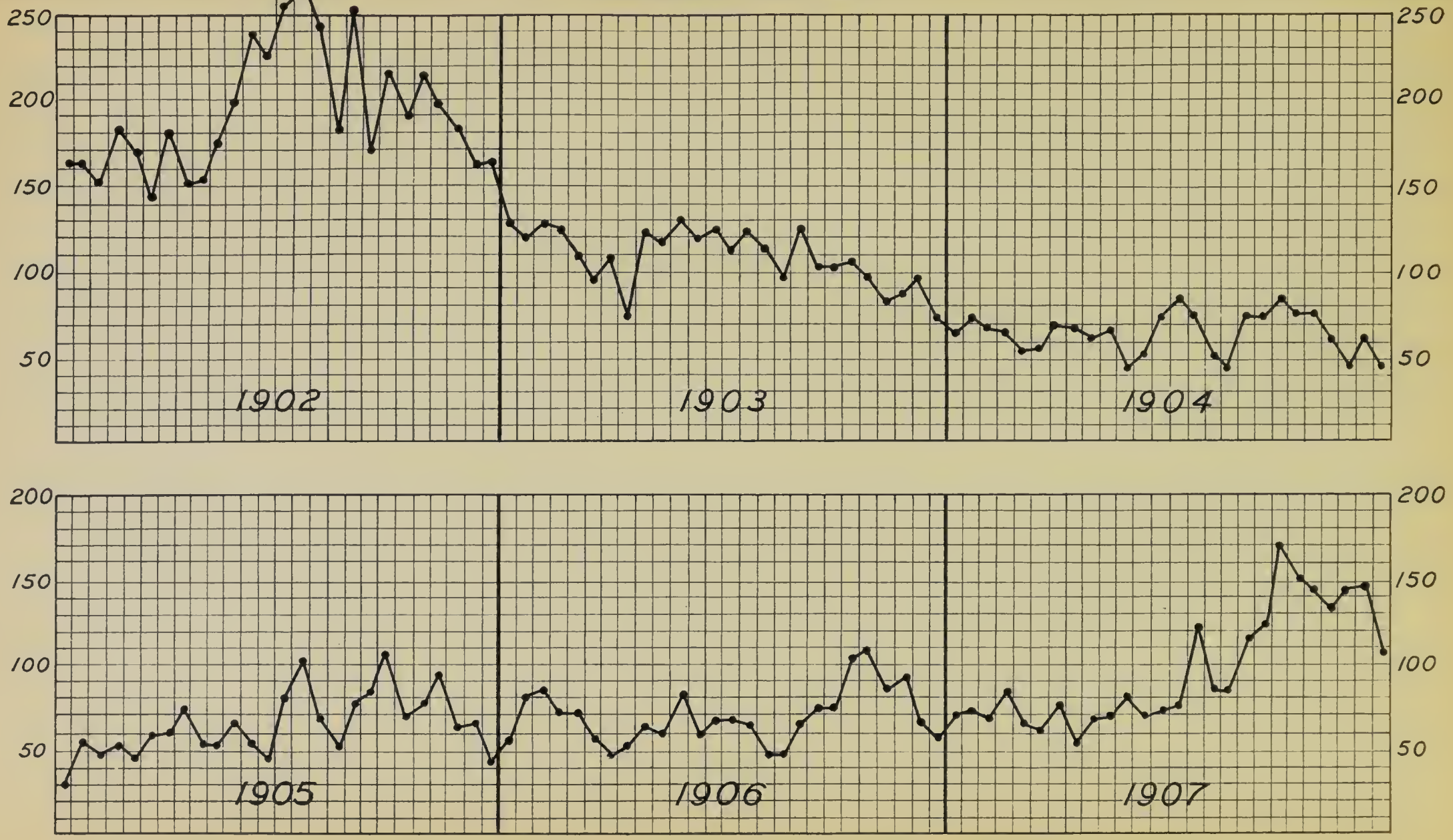


CHART No. 4.



CASES OF SCARLET FEVER IN FORTNIGHTLY PERIODS.

The next table gives the sickness rate in the municipal wards in the last five years, together with the mean of the five years :— Scarlet fever in wards.

SCARLET FEVER SICKNESS RATES.

Ward.	1903.	1904.	1905.	1906.	1907.	Mean of five years.
Rotton Park	6·46	4·32	3·38	3·22	3·96	4·27
All Saints'	5·08	3·44	3·84	3·41	3·69	3·89
Ladywood	4·83	4·39	2·98	2·75	2·82	3·55
St. Paul's	3·28	2·43	2·00	1·72	3·73	2·63
St. George's...	4·75	4·07	4·57	5·04	4·48	4·58
St. Stephen's	3·92	3·60	4·00	5·20	6·06	4·56
St. Mary's	2·71	1·26	3·28	2·59	4·33	2·83
St. Bartholomew's ...	4·41	2·29	3·07	2·19	5·34	3·46
Market Hall	4·85	2·07	1·88	2·12	4·59	3·10
St. Thomas'	4·90	2·77	2·15	1·33	4·38	3·11
St. Martin's	4·09	2·78	1·78	2·09	6·72	3·49
Edgbaston and Harborne...	2·84	2·52	2·26	2·23	4·88	2·95
Deritend	4·91	2·78	2·07	1·72	3·41	2·98
Bordesley	7·07	2·57	3·03	3·27	4·06	4·00
Duddeston	4·34	2·17	4·19	3·75	6·08	4·11
Nechells	5·31	2·07	3·35	4·21	6·13	4·21
Balsall H ath	6·84	4·16	2·35	3·56	4·25	4·23
Saltley	7·64	3·06	4·04	4·86	4·75	4·87

In the following table the total number of cases reported and the number of these removed to the City Hospitals are set out, together with the percentage. It will be noted that the percentage of cases removed during 1907 was 89. Scarlet fever cases removed to hospital.

PERCENTAGE OF CASES REMOVED TO HOSPITAL.

	Cases Reported.	Cases Removed.	Percentage.
1893 ...	1614 ...	1339 ...	83%
1894 ...	1788 ...	1539 ...	86%
1895 ...	2964 ...	2595 ...	88%
1896 ...	*3389 ...	*2812 ...	83%
1897 ...	1929 ...	1641 ...	85%
1898 ...	1320 ...	1083 ...	82%
1899 ...	1255 ...	1052 ...	84%
1900 ...	2063 ...	1814 ...	88%
1901 ...	3314 ...	2959 ...	89%
1902 ...	*5044 ...	*4534 ...	90%
1903 ...	2835 ...	2455 ...	87%
1904 ...	1659 ...	1437 ...	87%
1905 ...	1684 ...	1489 ...	88%
1906 ...	1814 ...	1557 ...	86%
1907 ...	2522 ...	2243 ...	89%

*53 weeks.

As in former years a careful note has been kept of the number of cases occurring in particular schools, and during the year it may be fairly said that the disease was not epidemic in any school in Birmingham. The largest prevalence occurred at Rea Street Council Schools, where eight Scarlet fever and schools.

Scarlet fever and schools (*continued*).

cases occurred in September, eight in October, and fifteen in November. This, however, is a large school, with, approximately, 1,300 children, so that the incidence in the school which suffered most severely was not great.

The total number of cases occurring among school children attending public elementary schools, together with the number of schools involved, is shown in the accompanying table :—

SCARLET FEVER CASES AMONGST SCHOOL CHILDREN.

Month.	No. of Cases	No. of Schools involved.
January	89	47
February	94	41
March	77	44
April	66	30
May	101	45
June	88	46
July	140	55
August	85	50
September	172	71
October	203	80
November	177	73
December	132	60

In none of the public institutions during the year was there any large incidence of scarlet fever. The greatest number occurred at the Blind Institution, where eleven cases were noted. Special maps are regularly prepared showing the incidence of scarlet fever over the City, but in no instance during the year has one area shown a great incidence while another has been free.

Prevention of scarlet fever.

For a number of years particularly careful observations have been made into the incidence of scarlet fever, here as elsewhere, with a view to determining if possible why the methods which are now generally adopted prove so unsatisfactory in the way of preventing the spread of the disease. Scarlet fever is rightly recognised as an infectious disease in which the infection from the sick is capable of spreading to healthy individuals, and therefore it is thought that if all cases of scarlet fever could be detected sufficiently early, and kept under proper isolation during the period of their infectiousness, and if at the end of this period the disinfection were efficient, there ought to be no spread of the disease. In practice what is found is that the disease is more or less continuously prevalent in all large towns, and that once in every five or six years it becomes widely epidemic, while during the intervals the cases are much fewer.

Very careful inquiry is made in each case of scarlet fever, with a view to ascertaining whether, and if so, what connection there is between it and previous cases of the disease. In all large towns it appears to be extremely difficult even when dealing with willing and careful parents to obtain any clue as to how the infection was conveyed from one patient to another.

Prevention of scarlet fever (*continued*).

Careful note has been kept of the relationship between the milk supply and the disease, and so far as observation goes there have been no milk outbreaks in Birmingham during the year. Occasionally we have thought that one or two cases may have had something to do with the milk supply, but certainly in no instance have there been more than one or two cases at a time in any supply; indeed, during the last five or six years in Birmingham no milk outbreak of any importance has been noted.

Isolation and the necessary disinfection after recognised cases of scarlet fever do not at present seem to be sufficient preventive means if the uniformity with which the disease is prevalent and the figures in regard to the effect of such isolation set out on another page are taken into consideration.

As has already been said, common-sense indicates that if every case of an infectious disease like scarlet fever can be isolated there ought to be no difficulty in stamping it out. In Birmingham, about 90 per cent. of the notified cases were isolated in hospital during 1907, and of the remaining 10 per cent. it may be assumed that most of them were effectively isolated at home, so that the percentage of recognised scarlet fever cases which were not kept in effective isolation was a very small one. Possibly it is correct to say that at least 95 per cent. of all the cases were effectively isolated, either in hospital or at home, and yet notwithstanding this the disease increased and was more prevalent than in the previous year; indeed, during the autumn months it showed a considerable incidence.

Scarlet fever "carriers."

It has been suggested that the uniformity of incidence and the failure of our preventive measures is largely due to the number of persons who in health carry the germ or who suffer from the disease in an unrecognisable form, some of whom are in a very highly infectious state. Bearing these points in view, the inquiry into secondary cases in infected houses, which has been going on in Birmingham for several years, is particularly interesting.

Before considering the figures for the year 1907 as to secondary cases in infected houses, it may be desirable to keep in mind what has been proved to have occurred in the case of diphtheria, in which disease, unlike scarlet fever, the germ has been definitely determined, and its presence in healthy and sick persons ascertained.

Scarlet fever "carriers" (*continued*).

It is possible in every case of diphtheria to find the bacillus of the disease in the throat or other infected part at any stage of the disease. Very numerous observations have been made as to the occurrence of this germ in healthy persons, and it has been shown beyond any doubt whatever that in every community a considerable number of people carry in their throats, nasal cavities, or elsewhere, true diphtheria bacilli, which do not affect the carrier in any way.

There is considerable evidence, too, that at times these carriers are capable of ejecting organisms which infect others in such a way as to give them attacks of true diphtheria. Many such cases occur in Birmingham, the most remarkable feature of them being perhaps that such a carrier can and does move about among healthy susceptible individuals without apparently doing any real damage. It is probable that in every school in Birmingham children could be found who are bacillus carriers, but who are incapable of spreading the disease except at very rare intervals, and under conditions which are not precisely known.

Again, in the case of diphtheria a patient who has recently suffered may continue to have what is recognised as the true diphtheria bacillus in his throat for months after the attack has disappeared. Such germs appear to lose their power of setting up the disease, and probably the chances of such a bacillus carrier ejecting germs so as to be received by a susceptible person are also very remote. Advantage has been taken, in the case of diphtheria, of examinations of the throat for the purpose of localising such bacteria carriers, and very good results have been obtained in certain instances in the prevention of the disease.

Bearing these points in view, and applying for the moment a somewhat similar theory to the prevalence of scarlet fever we have at least a plausible explanation of why it is that isolation together with disinfection have not proved nearly so successful as was at one time considered possible. The fact that in a town community there are always present a large number of people who carry organisms capable of occasionally spreading infection may be an explanation of the course which scarlet fever has taken during recent years.

1.—Secondary Cases in Infected Houses.

Secondary cases of scarlet fever.

The inquiry into scarlet fever during 1907 was conducted on precisely similar lines to that in previous years. It was necessary as formerly to exclude all cases occurring in public institutions and to carefully revise the diagnosis in each case where this was possible. Such correction accounts for the difference in the number of cases dealt

with in this inquiry, and the total number occurring in the City. The following table gives the figures for each of the four years separately, as well as a summary for the whole period :— Secondary Cases of Scarlet Fever (*continued*).

RECURRENCE OF SCARLET FEVER IN HOUSES (1904-1907).

	1904.	1905.	1906.	1907.	Four years 1904-7.
Number of cases notified	1473	1532	1680	2388	7073
Number of houses involved	1235	1221	1382	1947	5785
Average number of cases per house ...	1·19	1·25	1·2	1·2	1·2
Number of cases removed to hospital...	1253	1334	1431	2077	6095
Proportion of cases removed to hospital	85%	87·1%	85·2%	87·0%	86·2%
Number of houses from which cases were removed	1044	1058	1175	1694	4971
Proportion of houses from which cases were removed	84·5%	86·6%	85·0%	87·0%	85·9%
Number of houses in which primary cases only occurred	1042	1018	1165	1665	4890
Proportion of houses in which primary cases only occurred	84·4%	83·4%	84·3%	85·5%	84·5%
Number of houses from which primary cases went to hospital	1026	1054	1155	1685	4920
Number of such houses in which no cases followed	868	864	979	1456	4167
Proportion of such houses in which no cases followed	84·6%	81·9%	84·7%	86·4%	84·6%
Number of houses in which primary cases were kept at home	190	167	211	237	805
Number of such houses in which no cases followed	174	154	186	209	723
Proportion of such houses in which no cases followed	91·5%	92·2%	88·15%	88·2%	89·8%

It will be noted that the figures for each year are very similar.

It may be argued that a period elapses between the commencement of infectiousness in the patient and his removal to hospital during which time the damage is done, but such a period would operate equally both in the case

Secondary cases of scarlet fever (*continued*).

of patients removed to hospital and in those isolated at home, so that so far as this inquiry goes such an argument appears to have little importance. During such preliminary period, however, it is probable that the patient infects others, but the evidence on this point does not indicate that such period does play a large part in the spreading of the infection.

Undoubtedly the houses from which the patients go to hospital are smaller and contain a larger number of persons than those in which cases are treated at home. This is shown in the following table, where for each year the number of persons per house, the proportion of children in the house, and certain other figures are set out, together with a summary for the four years.

	Houses from which 1st Case went to Hospital.	Houses in which 1st Case was kept at Home.
1904.		
Average number of persons per house ...	4·7	5·0
Proportion of children to total inmates ...	41·2%	39·4%
Average number of rooms per house ...	4·6	6·3
Average number of persons per room ...	1·0	0·8
Average number of persons per bedroom ...	1·8	1·4
1905.		
Average number of persons per house ...	5·8	5·0
Proportion of children to total inmates ...	50·2%	40·9%
Average number of rooms per house ...	4·5	6·2
Average number of persons per room ...	1·3	0·8
Average number of persons per bedroom ...	2·3	1·4
1906.		
Average number of persons per house ...	4·7	4·0
Proportion of children to total inmates ...	41·02%	28·8%
Average number of rooms per house ...	4·7	6·2
Average number of persons per room ...	1·01	0·6
Average number of persons per bedroom ...	1·77	1·2
1907.		
Average number of persons per house ...	6·0	3·9
Proportion of children to total inmates ...	49·2%	38·6%
Average number of rooms per house ...	4·7	6·1
Average number of persons per room ...	1·2	0·6
Average number of persons per bedroom ...	1·8	1·4
Four Years, 1904-1907.		
Average number of persons per house ...	5·3	4·4
Proportion of children to total inmates ...	46·3%	37·0%
Average number of rooms per house ...	4·6	6·19
Average number of persons per room ...	1·1	0·7
Average number of persons per bedroom ...	1·9	1·3

Perhaps more important than the figures above-mentioned is the inquiry regarding the susceptibility of the

inmates in each particular house. The question was asked in each case as to whether the children had previously suffered from scarlet fever, and assuming that the parents statements were on the average correct, the figures appear to be somewhat as follows :—

	HOUSES.							
	1st Case removed to Hospital.				1st Case kept at Home.			
	1904	1905	1906	1907	1904	1905	1906	1907
Proportion of inmates constituted by susceptible children	37·3 %	31·0 %	37·1 %	34·1 %	16·8 %	20·4 %	24·4 %	23·0 %
Average number of susceptible children remaining after each instance	1·76	1·80	1·76	2·05	0·84	1·01	0·90	0·90
Average number of susceptible persons (all ages) remaining after each instance..	3·96	4·22	4·18	4·2	2·97	3·18	3·2	3·6
Proportion of instances in which susceptible children remained ..	80·8 %	82·07%	81·1 %	82·8 %	52·1 %	51·5 %	55·9 %	57·4 %
Proportion of instances in which susceptible persons (all ages) remained	99·2 %	99·5 %	98·8 %	98 9 %	94·2 %	97·0 %	92·9 %	96·1 %

1904-07.	1st Case removed to Hospital.	1st Case kept at Home.
Proportion of inmates constituted by susceptible children	34·5 %	21·1 %
Average number of susceptible children remaining after each instance ..	1·86 %	·93
Average number of susceptible persons (all ages) remaining after each instance	4·15	3·2
Proportion of instances in which susceptible children remained .. .	81·8 %	54·5 %
Proportion of instances in which susceptible persons (all ages) remained..	99·1 %	95·0 %

The general conclusions from the inquiry would seem to be that the hospital, while it is of great benefit from the point of view of convenience to the general public and of enormous benefit from the point of view of the school authorities, does not play the part which it was expected to play in the prevention of the disease. A glance at the chart opposite page 24 indicates this, as well as the fact that the largest epidemic that ever occurred in Birmingham was registered in 1902 and in this year a larger amount of hospital accommodation was available than in any previous year.

During 1907 2,243 cases were removed to hospital, said to be suffering from scarlet fever, and of these 99 patients died, while 279 patients were treated at home, of

whom 5 died. In both instances, however, a correction has to be made for revision of diagnosis. As has already been pointed out, a good many cases sent in as scarlet fever proved not to be correctly diagnosed, while other cases sent in as scarlet fever succumbed from diseases quite apart from scarlet fever, so that the fatality of the hospital cases when these considerations are taken into account is reduced to 4·38 per cent., while that of the home treated cases becomes 1·81 per cent.

II.—So-called "Return" Cases.

"Return" cases of scarlet fever.

One of the dangers and annoyances in the treatment of scarlet fever in hospitals is the occurrence of further cases soon after the return home of the patient, indicating undoubtedly in certain cases that the infection has been carried home from the hospital. No hospital is free from these cases, and indeed, it is doubtful whether the number of such cases in well-managed hospitals varies very much. The staffs attached to all hospitals are well aware of the danger, and in the case of the Birmingham hospitals extra care has been taken during recent years to do everything which may prevent such cases.

It is gratifying to be able to report that during the year the number of so-called return cases was smaller than in any of the preceding three years, notwithstanding the fact that the total number of scarlet fever patients admitted was greater. The inquiry in regard to these cases during 1907 was made on exactly the same lines as those in the preceding three years. What has been taken as a definition of a return case will be found in the annual report for 1906. Unfortunately, there is no generally accepted definition, and, therefore, great care must be taken in comparing the percentage of return cases occurring in different hospitals.

The so-called return cases investigated during 1907 were 52 in number, as compared with 62 in 1906, and 54 in 1905. These 52 cases were associated with the return from hospital of 35 patients, 33 of these being from Birmingham hospitals, and 2 from hospitals outside the City boundary. Of the 52 cases, 11 could be definitely excluded for the following reasons:—In seven instances the disease proved subsequently not to be scarlet fever; in two, the patient who had been admitted into the hospital did not suffer from scarlet fever (one of these cases suffered from German measles, and the other from measles), and in the two others there was no evidence of contact.

"Return" cases of scarlet fever (*continued*).

The following table shows the number of return cases and the number of infecting cases (uncorrected) for the past four years :—

	1904.	1905.	1906.	1907.
So-called "Return" Cases	67	54	62	52
,, "Infecting" ,,	66	53	56	35

The number of days between the first contact with the infecting case, and the onset of the subsequent illness was as follows :—

1 day	1 case.
3 ,,	1 ,,
4 ,,	6 cases.
5 ,,	2 ,,
6 ,,	4 ,,
8 ,,	1 case.
9 ,,	7 cases.
10 ,,	3 ,,
11 ,,	1 case.
12 ,,	2 cases,
14 ,,	2 ,,
15 ,,	1 case.
16 ,,	2 cases.
17 ,,	2 ,,
19 ,,	2 ,,
20 ,,	2 ,,
27 ,,	1 case.
28 ,,	1 ,,

As in former years, careful enquiry was made into the complications which each of the infecting patients suffered from while in hospital, and after being discharged, and the following table gives the results :—

Complications.	While in Hospital.	After Discharge.
Congestion of Fauces	—	23
Enlargement of Tonsils	8	18
Enlargement of Cervical Glands	3	15
Nasal Discharge	13	8
Fissure of Nostril	4	2
Otorrhœa	2	1
Albuminuria	6	—
Skin Lesions	2	—
Tonsillitis	1	—
Intercurrent Infectious Diseases	2	—
Burns	1	—
Other Complications	5	4

"Return" cases of scarlet fever (*continued*).

The average duration of stay in hospital of the 35 "infecting cases" was 60 days. Seven of the return cases occurred after patients had been in hospital between 40 and 50 days, 16 had been in hospital 50 to 60 days, three from 60 to 70 days, three from 70 to 80 days, three from 80 to 90 days, four from 90 to 100 days, and one over 100 days.

Of the return cases 14·6 per cent. occurred in patients who slept in the same bed as the supposed infecting patient, 24·4 per cent. of the cases occurred in patients who slept in the same room, and otherwise had daily contact, while in 61 per cent. of the cases the contact was only by day.

III.—Mistaken Diagnosis.

Mistaken diagnosis in scarlet fever.

In a previous annual report, the great importance to the patient of correct diagnosis was clearly demonstrated. It is obvious that a mistake in diagnosis may expose the child to a dangerous infection and even death from scarlet fever. A correct diagnosis is by no means easy under the conditions existing in general practice. On the one hand in many cases the medical practitioner must not run any risk in leaving the infectious patient at home because proper isolation cannot be obtained, while on the other in many cases the diagnosis has to be made upon statements of the parents as to the existence some days previously of a rash, sore throat, or other symptoms. When such patients arrive at the hospital equal difficulty is experienced in determining whether they are actually suffering from scarlet fever or not.

The number of cases sent into hospital wrongly has diminished during the past four years, the figure being 9 per cent. in 1904, 5 per cent. in 1905, 3 per cent. in 1906, and 2 per cent. in 1907. During the year the percentage error amongst cases sent into hospital proved to be larger than the percentage error amongst patients kept at home, the error in the home class being ·96 per cent. Considerable use has been made by the medical practitioners in the City of the facilities for calling in the medical superintendents of our hospitals for consultation in doubtful cases before sending them to hospital, and it is probable that the reduction in the number of cases of mistaken diagnosis is largely due to this.

Mistaken diagnosis in scarlet fever (*continued*.

The number of patients admitted during the year as suffering from scarlet fever alone, and subsequently demonstrated not to be so suffering, is shown in the following table :—

Corrected Diagnosis.	No. of Cases.	No. which developed Scarlet Fever in Hospital.	Died.
Scarlet Fever and Diphtheria ...	5	—	3
Measles	13	2	2
German Measles	17	4	2
Chickenpox	1	1	—
Whooping Cough and Measles ...	2	—	1
Tonsillitis	2	1	—
Tuberculosis	2	—	2
Other Diseases	5	2	1
TOTAL	47	10	11
No definite disease	34	14	1
TOTAL	81	24	12

No less than 26 of these patients developed scarlet fever in the hospital; and the mortality amongst such cases was about as high as in previous years, 1 of the 26 patients having died. In 1906, 2 out of the 14 patients died, and in 1905 none out of 22 died, so that, taking the average of three years, no less than 62 patients developed scarlet fever at the hospital, and 3 died, giving a mortality rate of 4·8 per cent.

The average stay in hospital of the 81 patients incorrectly diagnosed was 49·4 days, while the average stay in hospital of those patients who subsequently developed scarlet fever was 70·4 days.

In the table on the following page will be found certain details regarding the result of hospital treatment in the 47 cases who had some definite illness at the time of their admission :—

Diagnosis at Hospital.	No. of Cases.	Register Number.	Days in Hospital.	Remarks.
Scarlet Fever and Diphtheria ...	5	2291 & 1014	7	Died.
		2064 & 910	51	
		2065 & 911	1	Died 12 hours after admission.
		1465 & 740A	5	Died.
		906 & 526	98	
Measles ...	13	2321	4	Did not develop S.F. Died.
		32	25	,, ,,
		2251	36	,, ,,
		31	25	,, ,,
		1203	25	,, ,,
		223	41	,, ,,
		737	5	,, ,, (Broncho-Pneumonia), died.
		447	43	,, ,,
		429	47	,, ,,
		553	87	,, ,,
		124	45	Developed S. F. in hospital.
		157	57	Did not develop S.F. (chickenpox)
		1387	56	Developed S.F. in hospital.
German Measles	17	2187	108	Did not develop S.F. (Broncho-Pneumonia), died.
		2523	57	,, ,, (chickenpox)
		2429	68	,, ,,
		1937	39	,, ,,
		1067	31	,, ,,
		768	29	,, ,,
		616	37	,, ,,
		614	32	,, ,, (Measles, Laryngitis) died.
		609	41	,, ,,
		579	44	,, ,,
		574	45	,, ,,
		286	35	,, ,,
		270	34	,, ,,
		2188	52	Developed S.F. in hospital
		683	53	,, ,, ,,
		678	54	,, ,, ,,
		302	25	,, ,, ,,
Chickenpox ...	1	1312	110	,, ,, ,,
Whooping Cough and Measles ...	2	2235	13	Did not develop S.F. Died.
		1261	54	,, ,,
Tonsillitis ...	2	1939	113	Developed S.F. in hospital.
		230	57	Did not develop S.F.
Tuberculosis ...	2	2324	33	,, ,, (Broncho-Pneumonia), died.
		1909	22	,, ,, Died.
Other Diseases	5	2221	67	,, ,, (Eczema)
		1176	163	Developed S.F in hospital (Febricula)
		1675	35	Did not develop S.F. (Gastric Ul.)
		1847	83	Developed S.F. in hospital (Bronchitis)
		887	15	Did not develop S.F. (Meningitis), died.

DIPHTHERIA.

Diphtheria.

The number of notified cases of diphtheria during 1907 was 1012, as compared with 817 in 1906, 698 in 1905, and 630 in 1904. The total number of notified cases was in excess of previous years, except 1896. The sickness rate per 1000 of the population was 1·84, as against 1·50 in 1906.

The total number of deaths from diphtheria was 100, as compared with 93 in the previous year. The death-rate was ·18 per 1000. The comparative figures, together with five-yearly averages, will be found in the following table :—

DIPHTHERIA DEATH-RATES.

1873	...	·31		1893	...	·17	
1874	...	·21		1894	...	·18	
1875	...	·16	Average	1895	...	·43	Average
1876	...	·16	·20	1896	...	·58	·34
1877	...	·14		1897	...	·32	
1878	...	·22		1898	...	·26	
1879	...	·18		1899	...	·29	
1880	...	·13	Average	1900	...	·15	Average
1881	...	·14	·16	1901	...	·16	·22
1882	...	·12		1902	...	·24	
1883	...	·11		1903	...	·25	
1884	...	·10		1904	...	·21	
1885	...	·11	Average	1905	...	·18	Average
1886	...	·18	·13	1906	...	·17	·20
1887	...	·13		1907	...	·18	
1888	...	·09					
1889	...	·12					
1890	...	·14	Average				
1891	...	·09	·13				
1892	...	·21					

From the above table it will be noted that the death-rate from diphtheria has not materially altered during the past 35 years. The highest recorded rates were those in 1895 and 1896, while in other years the rate has varied from ·09 to ·32 per 1000.

Fatality of diphtheria.

The fatality from this disease during 1906 was 10 per cent. The comparative figures set out below indicate that this is the lowest fatality rate yet recorded :—

	DIPHTHERIA.		
	Cases notified.	Deaths registered.	Case-mortality. per cent.
1892 ...	533	102	19
1893 ...	387	83	21
1894 ...	406	91	22
1895 ...	741	214	29
1896 ...	*1,194	*293	25
1897 ...	713	160	22
1898 ...	689	132	19
1899 ...	720	147	20
1900 ...	542	77	14
1901 ...	533	85	16
1902 ...	*787	*130	17
1903 ...	884	135	15
1904 ...	630	115	18
1905 ...	698	98	14
1906 ...	817	93	11
1907 ...	1012	100	10

*53 weeks.

Diphtheria in wards.

The following table shows the number of cases per 1,000 of the population in each of the wards of the City during the past five years :—

SICKNESS RATES FROM DIPHTHERIA.

	1903.	1904.	1905.	1906.	1907.
Rotton Park ...	2·09	1·41	2·29	1·36	1·77
All Saints' ...	1·62	1·14	0·43	1·69	2·34
Ladywood ...	2·30	2·06	1·69	2·43	2·14
St. Paul's ...	1·74	1·09	1·22	1·79	1·59
St. George's ...	2·01	0·49	1·67	1·17	3·19
St. Stephen's ...	1·48	0·42	1·50	2·47	2·54
St. Mary's ...	0·55	0·63	1·16	1·44	2·24
St. Bartholomew's	2·42	2·02	1·33	1·09	2·04
Market Hall ...	0·84	0·55	2·43	1·38	1·23
St. Thomas' ...	1·94	1·12	0·59	1·05	2·02
St. Martin's ...	1·25	1·06	0·97	1·09	2·45
Edgbaston and Harborne ...	0·51	1·18	0·87	0 61	1·26
Deritend ...	2·00	1·20	1·01	1·14	1·34
Bordesley ...	1·62	1·26	1·06	1·84	1·41
Duddeston ...	1·40	1·24	2·52	2·22	2·73
Nechells ...	1·19	0·81	1·74	1·31	1·61
Balsall Heath	1·12	1·17	0·97	1·56	1·54
Saltley ...	0·91	1·35	0·85	1·44	1·25

From the above figures it will be seen that last year the cases of diphtheria were relatively most numerous in St. George's, Duddeston, St. Stephen's, and St. Martin's wards.

Diphtheria and schools.

Unlike the year 1906 no special outbreak was recorded in any of our large institutions, and none of the public elementary schools appear to have been particularly affected. The distribution during the year and the number of schools involved each month are shown in the accompanying figures. Schools, therefore, probably played an unimportant part in the spread of the disease.

Month.	No. of Cases.	No. of Schools involved.
January	32	26
February	27	22
March	43	32
April	22	19
May	40	31
June	35	26
July	35	27
August	21	18
September	34	27
October	37	26
November	40	27
December	26	21

Mortality from diphtheria in hospital and at home.

Of the 1012 cases originally notified as diphtheria, 651 were removed to the City Hospital, or 64 per cent., as compared with 50 per cent. in previous years. Of the 651 cases so removed, 34 were found not to be suffering from the disease, and none of these developed the disease in hospital. Of the remaining 361 cases, eight revisions of diagnosis were afterwards made. Among the 617 cases of true diphtheria treated in hospital 66 died, equal to a case mortality of 9·2 per cent.

Among the 353 cases of true diphtheria nursed at home, or other public institutions, 34 died, equal to a mortality of 9·6 per cent. In the 34 cases admitted to hospital, which were subsequently found not to be suffering from diphtheria, 3 deaths occurred.

Diphtheria and bacteriological examinations.

Of the 651 patients sent to the City Hospital only 170 were examined bacteriologically at the University before admission, that is, 26 per cent., as against 32 per cent. in 1906, and 28 per cent. in 1905.

Six hundred and two patients were examined bacteriologically within 24 hours of admission to hospital, and of these 544 showed the presence of the diphtheria bacillus, that is, 90·3 per cent., as compared with 90·8 per cent. in 1906.

In addition to the first examination, specimens from the patients' throats were examined at intervals to ascertain when the patients were free from the diphtheria organism, and the results of these examinations are set out in the following table :—

DIPHTHERIA CASES IN HOSPITAL, 1906-7.

Year.			Days after Admission.
1906	1907		
3·5%	2·0%	Were first free from Diphtheria Bac. within	10
3·5%	—	,, ,, ,, ,,	10 to 15
4·8%	3·5%	,, ,, ,, ,,	15 ,, 20
7·7%	12·2%	,, ,, ,, ,,	20 ,, 25
15·1%	15·1%	,, ,, ,, ,,	25 ,, 30
12·2%	12·5%	,, ,, ,, ,,	30 ,, 35
11·0%	10·5%	,, ,, ,, ,,	35 ,, 40
42·2%	44·2%	Were not free from bacilli till after	40

It will be noted that 44·2 per cent. of the patients were not free from diphtheria bacilli in their throats at the end of 40 days. Of the cases that were kept in over 100 days 12 were not free, while in one case kept in 153 days diphtheria bacilli were still found in the throat. In view of the length of the isolation period and the small liability

Diptheria and bacteriological examinations (*continued*).

which is known to exist as to such patients being capable of spreading the disease, they were discharged with special instructions as to what should be done to prevent any spread of infection.

During the year 999 swabs taken from the throats of patients suspected to be suffering from diphtheria were sent by the medical men in the City to the University. This is a much larger number than in any former year, and indicates that the facilities which the Health Committee have placed at the disposal of the profession are being appreciated. Several of these swabs were from patients whose throats had on one or two previous occasions been examined, so that the total number does not represent the number of new cases examined. The number of secondary swabs taken was 151.

No less than 89 of the swabs sent to the University showing a positive result were from patients whose cases were not notified by the medical attendant.

Diphtheria and anti-toxin.

The University distributed 526 bottles of anti-toxin, each containing 2000 units, as compared with 500 bottles in 1906. As far as can be ascertained, this anti-toxin was required for about 245 patients, at an approximate cost of £65, or 5s. 3d. per patient. In the following table the distribution of the notified cases and of the doses of anti-toxin for the last two years is set out as accurately as possible. In a large number of instances the address of the patient has not been given at all fully by the medical attendant in making application for the anti-toxin.

Ward.	1906. Cases of Diphtheria.	Persons for whom anti-toxin was sent.	1907. Cases of Diphtheria.	Persons for whom anti-toxin was sent.
Rotton Park	67	16	90	14
All Saints'	72	18	103	16
Ladywood	60	8	53	5
St. Paul's...	27	4	23	1
St. George's	24	0	64	1
St. Stephen's	57	3	59	6
St. Mary's	20	2	30	7
St. Bartholomew's ...	27	4	47	6
Market Hall	13	0	11	2
St. Thomas'	19	3	35	2
St. Martin's	26	6	59	10
Edgbaston & Harborne	20	5	42	13
Deritend	27	13	31	2
Bordesley	110	32	86	31
Duddeston	51	12	63	2
Nechells	44	4	52	2
Balsall Heath	64	21	62	22
Saltley	73	18	67	16

WHOOPING COUGH.

This disease caused 188 deaths during 1907, giving a death-rate of ·34 per 1000. From the figures appended below it will be noted that this number, although large, is considerably below the average in preceding years. In four previous years, however, the mortality rate was lower than in 1907. Whooping cough.

DEATH-RATE FROM WHOOPING COUGH.

1878	...	1·19		1893	...	·66	
1879	...	·97		1894	...	·44	
1880	...	·55	Average	1895	...	·35	Average
1881	...	·90	·88	1896	...	·76	·53
1882	...	·79		1897	...	·45	
1883	...	·43		1898	...	·50	
1884	...	·70		1899	...	·33	
1885	...	·61	Average	1900	...	·58	Average
1886	...	·23	·58	1901	...	·42	·47
1887	...	·91		1902	...	·50	
1888	...	·56		1903	...	·17	
1889	...	·66		1904	...	·87	
1890	...	·47	Average	1905	...	·29	Average
1891	...	·66	·59	1906	...	·46	·43
1892	...	·59		1907	...	·34	

This disease, like measles, is extremely infectious, but the infection differs entirely from that of scarlet fever and diphtheria. Probably few children of the artisan classes escape an attack of whooping cough. Although probably not so markedly a school-spread disease as measles, yet schools by assembling daily large numbers of young children together do spread the disease very considerably. The disease is of course spread by other assemblies of children such as Sunday Schools.

The fatality is chiefly influenced by the period of the year during which the epidemic occurs. It is probably fortunate when the disease becomes prevalent during summer weather, so that a large number of children may escape the lung troubles which occur during the winter months.

TYPHOID FEVER.

The death-rate from typhoid fever during 1907 was relatively a low one. It was ·09 per 1000, as compared with ·07 per 1000 in each of the three preceding years. Typhoid fever.

The number of cases as well as of deaths was somewhat greater during 1907 than in either of the two preceding years.

Typhoid fever in large towns.

The death-rate from fever for the whole of England and Wales during 1907 was ·07 per 1000, as compared with ·09 in Birmingham. The highest rates from fever were those recorded in Middlesbrough, Rhondda, Grimsby, and Wigan.

Among the twenty large towns the fever rates during the ten years 1897-1906 and during 1907 were as follows :—

FEVER RATES IN 20 LARGE TOWNS.

	AVERAGE. 1897-1906.	1907.
London	·11	·04
Liverpool	·21	·13
Manchester	·15	·05
Birmingham	·17	·09
Leeds	·16	·06
Sheffield	·23	·09
Bristol	·11	·04
Bradford	·17	·08
West Ham	·21	·05
Hull	·18	·06
Nottingham	·25	·15
Salford	·28	·08
Newcastle	·10	·04
Leicester	·10	·02
Portsmouth	·24	·14
Cardiff	·09	·07
Bolton	·24	·14
Sunderland	·28	·07
Croydon	·06	·01
Oldham	·11	·03

The increase in the number of cases in Birmingham during 1907, as compared with the two preceding years, occurred mainly during the first quarter. During the subsequent quarters of the year the number of cases notified was as low or lower than in previous years.

The following table indicates the number of cases and deaths and the fatality in each year since 1897 :—

Years	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
Notified Cases	533	637	779	851	615	544*	348	248	209	191	248
Deaths	89	113	119	179	111	100*	66	36	38	40	48
Percentage Mortality	17	18	15	21	18	18	19	15	18	21	19

*53 weeks.

In the next table are shown the death-rate, sickness-rate, and meteorological conditions for each year since 1887 :— Typhoid fever and temperature and rainfall.

	TYPHOID FEVER.		Mean Temperature. degrees Fah., in 3rd Quarter.	Rainfall. in inches for year.
	Death-rate.	Sickness-rate.		
1887	·17	—	58·9	19·80
1888	·14	—	55·7	24·62
1889	·09	—	57·6	24·94
1890	·14	·66	58·0	22·10
1891	·18	·93	57·3	31·14
1892	·08	·54	57·0	25·60
1893	·19	1·00	60·0	20·76
1894	·21	1·04	54·9	25·52
1895	·17	·88	59·6	24·89
1896	·21	·95	57·7	22·27
1897	·18	1·06	58·3	28·21
1898	·22	1·25	58·7	20·45
1899	·23	1·52	61·2	25·12
1900	·35	1·64	60·2	29·09
1901	·21	1·18	60·7	22·64
1902	·19	1·01	57·1	25·98
1903	·12	·65	57·4	33·83
1904	·07	·46	58·8	21·94
1905	07	39	58 4	22·30
1906	·07	·35	60·9	26·56
1907	·09	·45	57·5	28·86

From these it will be seen that for some years there has been a steady decline in both the attack-rate and death-rate from typhoid fever in Birmingham, in spite of varying climatic conditions. This is particularly satisfactory, as it shows that the improvement is a permanent one. An indication of the consistent improvement last year is given in the following table, which shows the number of cases which occurred during each four-weekly period in 1907, compared with the corresponding four-weekly period in the previous seventeen years :— Typhoid fever in four-weekly periods.

	1907.	Average in 17 years 1890-1906.
Four weeks ending January 26th	26	38
,, ,, February 23rd	25	37
,, ,, March 23rd	40	32
,, ,, April 20th	19	31
,, ,, May 18th	17	28
,, ,, June 15th	4	23
,, ,, July 13th	10	19
,, ,, August 10th	10	21
,, ,, September 7th	19	40
,, ,, October 5th	16	45
,, ,, November 2nd	19	47
,, ,, ,, 30th	27	53
,, ,, December 28th	16	44

Typhoid fever in wards.

In the following table are given the sickness rates for each year since 1901 in the Wards of the City :—

	1901.	1902.	1903.	1904.	1905.	1906.	1907.
Rotton Park	·94	·72	·47	·46	·43	·36	·32
All Saints'	1·04	·91	·47	·30	·28	·21	·48
Ladywood	1·08	1·07	·44	·36	1·01	·32	·44
St. Paul's	1·40	1·09	·71	·32	·19	·46	·35
St. George's	1·73	1·52	·44	·59	·69	·49	1·10
St. Stephen's	2·02	1·01	·59	1·06	·69	·74	·99
St. Mary's	1·83	1·00	·86	1·20	·51	·43	·75
St. Bartholomew's ...	1·90	1·27	·79	·46	·36	·24	·69
Market Hall	1·43	·63	·32	·22	·44	·21	·11
St. Thomas'	1·35	1·24	·54	·53	·11	·50	·35
St. Martin's	1·09	1·29	·46	·33	·36	·33	·46
Edgbaston & Harborne	·52	·45	·58	·26	·29	·18	·15
Deritend	1·66	2·04	1·21	·70	·25	·42	·60
Bordesley	·86	·92	·65	·38	·33	·35	·33
Duddeston	1·51	1·30	1·15	·51	·51	·65	·30
Nechells	·89	1·62	·98	·45	·43	·36	·59
Balsall Heath	·67	·67	·51	·42	·10	·19	·45
Saltley	1·19	·77	·66	·38	·38	·3	·32

The highest rate occurred in St. George's Ward, viz., 1·10 per 1000, while the lowest rates were ·11 per 1000 in Market Hall Ward, and ·15 in Edgbaston and Harborne Ward.

Typhoid fever and filth conditions.

The reduction in the incidence of typhoid fever which has occurred has followed closely the improvement in the method of filth removal from the City. As has been shown in previous reports the abolition of pail closets is a most important measure in the prevention of typhoid fever. This, however, alone does not account for the whole of the reduction. In addition to the abolition of the filth conditions attendant upon pail closets, there are improvements yet to be effected in the removal of house refuse. There is in many court yards and other places much room for improvement in the direction of the prevention of accumulations of filth.

Typhoid fever mortality in hospital and at home.

Of the 248 cases of typhoid fever 153 were treated at the City Hospital, and of these 29 died, equal to 19 per cent., while of the 95 cases treated at home 25 proved fatal, equal to a mortality of 26 per cent.

Among the cases admitted to the City Hospital 6 deaths occurred among patients who were subsequently proved not to be suffering from typhoid fever, the proof being obtained in many cases as the result of a post-mortem examination.

Mistaken diagnosis in typhoid fever.

Of the 153 cases admitted to the City Hospital there were 11 in which the diagnosis of typhoid fever was not confirmed. None of these 11 cases contracted typhoid fever at the hospital, but while none of them suffered harm by being admitted, such admission is objectionable from many points of view, and the greatest vigilance is necessary to prevent such admissions.

The following table shows the corrected diagnosis in these cases :—

Corrected Diagnosis.	No. of Cases.	Deaths.
Scarlet Fever	2	0
Chronic Bronchitis	1	1
Appendicitis	1	0
Phthisis	1	0
Pneumonia and Meningitis ...	1	1
Pneumonia	1	1
Senile Decay	1	1
Tubercular Meningitis	1	1
Acute Mania	1	0
Cirrhosis of Liver	1	1
	11	6

Origin of typhoid fever cases.

The suspected source of the illness in certain of the cases is interesting. There was a history of personal contact in 31 cases. Of these 31 patients 25 came from houses in which a previous case of typhoid fever existed, 5 others occurred among nurses at Lodge Road Hospital, and one patient nursed another kept at home. On a former occasion it has been stated that approximately 10 per cent. of the cases of typhoid fever which occur have a history of direct contact with previous cases. During 1907 the percentage was 12·5.

The most important group of cases is that in which there was prior to the illness a history of having eaten mussels, oysters or watercress. Twenty-six patients gave a history of having eaten one or other of these articles within a month of the commencement of symptoms of typhoid fever. In no less than 24 cases mussels were involved. Doubtless the number of patients who owed their attacks of typhoid fever to mussels was more numerous than the above figures indicate.

Several of the cases appeared to leave no doubt about mussels being the carrier of the infection, as, for instance, a boy who was admitted to the Fever Hospital suffering from typhoid fever volunteered the information that a friend had

Origin of Typhoid Fever cases (*continued*).

shared the mussels with him. On going to the friend's house it was found that he was ill, that in both cases the illness commenced about the same date, and that in the case of the friend, while the symptoms were not quite obviously those of typhoid to begin with, they subsequently developed into those typical of typhoid fever.

The evidence has been so strong during each of the past few years as to the incidence of typhoid fever on mussel eaters that it has been deemed advisable to have a careful investigation made into the bacterial content of mussels imported into the City. It appears that mussels arrive from a large number of sources, and that they are very extensively used. It is well known that they fatten in estuaries where the organic matter is often partly derived from sewage, so that there is a possibility of typhoid infected sewage being carried by the mussel to the consumer in the inland town.

Widal's Test.

The number of occasions on which medical men in Birmingham made use of the facilities provided by the Health Committee at the University for examining the blood of doubtful cases was 121, as compared with 122 in 1906, and 123 in 1905. The results showed the blood to give the typhoid reaction in 40 instances, as compared with 41 in the previous year.

Of the cases reported 33 were confirmed bacteriologically, that is, 12·8 per cent., compared with 15 per cent. in the previous year. It is somewhat disappointing that so valuable a method of confirming a diagnosis in a disease in which there are obvious difficulties is not more frequently made use of.

DIARRHŒA AND ENTERITIS.

Diarrhœa.

The number of deaths from diarrhœa registered during 1907 was 237, and from enteritis 168, a total of 405. For the purposes of this report it is convenient to group these diseases together, as the causes in operation in producing one are largely those affecting the other.

The death-rate per 1000 of the population was ·73. This is the lowest recorded death-rate from this group of diseases, which, taking into consideration the climatic conditions, indicates that something is in operation, apart from the weather conditions, which has reduced the number of deaths from this very important cause.

The ages at which the deaths occurred are shown in considerable detail in the accompanying table, and as in former years it indicates that the large majority of deaths occurred among children under two years of age.

DEATHS FROM DIARRHŒA AND ENTERITIS.

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Year.
Under 1 month	2	8	7	3	20
Between 1 and 2 months	5	6	13	14	38
,, 2 and 3 ,,	7	7	11	15	40
,, 3 and 4 ,,	3	6	16	15	40
,, 4 and 5 ,,	3	2	13	9	27
,, 5 and 6 ,,	2	5	8	12	27
,, 6 and 7 ,,	1	2	10	7	20
,, 7 and 8 ,,	0	3	10	11	24
,, 8 and 9 ,,	1	2	6	16	25
,, 9 and 10 ,,	1	0	6	7	14
,, 10 and 11 ,,	1	4	7	5	17
,, 11 and 12 ,,	1	1	5	5	12
Total under 1 year... ...	27	46	112	119	304
Between 1 and 2 years ...	5	4	13	22	44
,, 2 and 3 ,, ...	3	1	3	3	10
,, 3 and 4 ,, ...	1	0	1	0	2
,, 4 and 5 ,, ...	0	0	0	0	0
Total under 5 years ...	36	51	129	144	360
Between 5 and 10 years ...	1	0	1	1	3
,, 10 and 15 ,, ...	0	0	0	0	0
,, 15 and 20 ,, ...	0	0	0	0	0
,, 20 and 25 ,, ...	1	0	0	0	1
,, 25 and 35 ,, ...	0	1	1	3	5
,, 35 and 45 ,, ...	1	0	2	2	5
,, 45 and 55 ,, ...	1	1	1	2	5
,, 55 and 65 ,, ...	3	1	0	1	5
,, 65 and 75 ,, ...	6	2	0	2	10
,, 75 and 85 ,, ...	4	2	1	3	10
At 85 years and upwards	0	1	0	0	1
All ages	53	59	135	158	405

Diarrhœa in other towns.

The mortality from diarrhœa alone, not diarrhœa and enteritis, in other towns which are comparable with Birmingham, or adjacent to it, is set out below :—

Average of 76 great towns	·40	Aston Manor	·43
London	·32	Coventry	·49
West Ham...	·66	Leicester	·31
Bristol	·32	Liverpool	·73
Burton-on-Trent	·11	Manchester	·50
Wolverhampton	·49	Burnley	·69
Walsall	·78	Preston	·54
Handsworth	·18	Leeds	·38
West Bromwich	·30	Sheffield	·99
Birmingham	·43	Newcastle	·14
King's Norton	·05	Cardiff	·34
Smethwick	·17		

Diarrhœa and climatic conditions.

All over the country a great reduction occurred in deaths from this cause, as compared with the preceding year. This was due mainly to the fact that the climatic conditions were unfavourable to the dissemination of the poison which causes the disease.

The figures for the past 20 years are set out below. These indicate how very variable the number of deaths from this disease is, and to some extent also they indicate the relationship between temperature and rainfall during the third quarter with the extent of the prevalence of the disease.

	Deaths during each year.				During 3rd Quarter.		
	Diarrhœa.	Enteritis.	Total.	Death-rate per 1,000.	Mean Temperature.	Rainfall in inches.	Days with ·010 or more of rain
1887 ...	550	60	610	1·46	58·9	5·62	31
1888 ...	305	60	365	0·87	55·7	9·58	49
1889 ...	465	56	521	1·23	57·6	6·62	39
*1890 ...	434	101	535	1·23	58·0	7·39	42
1891 ...	320	107	427	0·99	57·3	7·27	48
†1892 ...	443	104	547	1·13	57·0	9·22	41
1893 ...	828	200	1028	2·11	60·0	5·61	46
1894 ...	256	148	404	0·82	54·9	7·18	45
1895 ...	605	282	887	1·79	59·6	6·45	44
*1896 ...	589	309	898	1·76	57·7	7·33	47
1897 ...	923	521	1444	2·86	58·3	7·24	35
1898 ...	668	544	1212	2·37	58·7	4·50	21
1899 ...	831	580	1411	2·74	61·2	4·98	34
1900 ...	613	409	1022	1·97	60·2	5·43	31
1901 ...	792	206	998	1·91	60·7	5·91	26
*1902 ...	412	122	534	0·99	57·1	7·51	47
1903 ...	588	136	724	1·36	57·4	9·85	49
1904 ...	955	155	1110	2·07	58·8	5·75	31
1905 ...	463	177	640	1·19	58·4	7·33	34
1906 ...	857	226	1083	1·98	60·9	2·97	26
1907 ...	237	168	405	0·73	57·5	6·08	40

* 53 weeks. † Enlarged City.

Prevention of Diarrhœa.

Every year special means of prevention are arranged immediately prior to the onset of the diarrhœa season. These consist (1) in giving directions to the Health Visitors to confine their attention to, as far as possible, the poorer parts of the City, where filth is more prevalent, and where the parents of the children are more careless and ignorant; (2) in giving special instructions to the gang of court cleansers so that without interfering with the duty of the occupiers and owners accumulations of filth should be removed or disinfected as far as possible.

Certain evidence which has come to light as regards the prevalence of summer diarrhœa among dwellers in towns where the flat system is in operation indicates apparently that contaminated yard surfaces and contaminated street surfaces do play an important part, for among the families living in towns where flats are numerous, the

children, being removed from these sources of contamination, suffer less than in towns where the whole population is spread over the surface in self-contained houses.

Ten thousand posters drawing attention to the danger of summer diarrhœa were distributed. The poster issued during 1907 differed from that in previous years, and was as follows :—

TO PROTECT THE BABIES.

The Health Committee again desire to draw attention to the enormous mortality which occurs every warm summer from *Epidemic Diarrhœa* in Birmingham during August and September (nearly 1,000 deaths). Most of these deaths ought not to occur. Parents and guardians should, therefore, during the warm season be most careful to carry out the following :—

1. *Breast-fed infants* should not be weaned during hot weather.

2. *Bottle-fed infants* should only have milk which has been bought in a fresh condition, boiled, and stored in a clean and cool place.

3. The jugs and feeding bottles used for the milk should be kept scrupulously clean by scalding.

4. Infants should not be allowed to crawl on the floor or court-yard where they can pick up dirt. Their clothing, etc., should be kept very clean, so as to prevent their sucking anything dirty.

5. *Diarrhœa* is so rapidly fatal in young infants that whenever it commences medical advice should be sought at once, and valuable time not lost.

6. By using common sense in keeping the house, yard, and everything in connection with young children in a clean condition, it is certain that hundreds of deaths can be prevented.

JOHN ROBERTSON,

Medical Officer of Health.

The Council House, Birmingham.

Infantile Diarrhœa and methods of feeding.

As in former years, the Health Visitors enquired into the circumstances attending the death of each child who died from diarrhœa, and in the following table will be found the particulars as to feeding the children :—

Methods of Feeding the Infants under Six Months old who died of Diarrhœa during the Third Quarter of 1907.

AGE.	Number of Deaths.	Breast Alone.	Breast with Spoon Food.	Breast with Bottle.	Bottle with Cow's Milk Alone.	Bottle with Cow's Milk and other Foods.	Bottle with Condensed Milk only.	Bottle with Condensed Milk and other Food.	Other Foods from Bottle or with Spoon.	Boat Bottle used.	Tube Bottle used.
Under 1 month	6	1	1	1	1	1	1	...	...	3	1
1 and under 2 months ...	12	1	1	1	6	2	1	...	...	6	4
2 ,, 3 ,, ...	10	...	...	3	3	3	...	...	1	5	5
Total under 3 months ...	28	2	2	5	10	6	2	...	1	14	10
3 and under 4 months ...	17	...	3	...	8	4	1	...	1	7	8
4 ,, 5 ,, ...	12	...	1	...	10	...	1	...	...	2	9
5 ,, 6 ,, ...	11	...	2	2	1	4	...	1	1	4	5
Total 3 to 6 months ...	40	...	6	2	19	8	2	1	2	13	22
Total under 6 months, 1907	68	2	8	7	29	14	4	1	3	27	32
Total under 6 months, 1906	327	26	20	42	143	29	32	23	12	78	198
Total under 6 months, 1905	178	16	17	11	82	25	17	8	2	59	84
Total under 6 months, 1904	408	37	14	50	194	67	25	12	9	71	279

INFLUENZA.

Influenza.

The next table shows the deaths from influenza during the last ten years :—

1898	89
1899	150
1900	185
1901	90
1902	76*
1903	63
1904	68
1905	63
1906	72
1907	81

* 53 weeks.

From these figures it will be seen that influenza has not been seriously epidemic since the year 1900, when 185 deaths occurred, as compared with 81 last year.

ERYSIPELAS.

Erysipelas.

The number of cases notified and of deaths registered from this disease, together with the percentage mortality, during each of the last ten years, will be found in the table below :—

	Cases.	Deaths.	Percentage Mortality.
1898	637	15	2·4
1899	629	21	3·3
1900	678	26	3·8
1901	726	23	3·2
1902	762*	30*	3·9
1903	644	22	3·4
1904	597	29	4·9
1905	595	31	5·2
1906	589	23	3·9
1907	599	18	3·0

* 53 weeks.

It will be noticed that in the last four years there has been a considerable reduction in the number of erysipelas cases as compared with the previous six years.

PUERPERAL FEVER.

Puerperal Fever.

Both the cases and deaths from puerperal fever were higher than usual, as will be seen from the following table :—

	Cases.	Deaths.
1898	24	14
1899	30	14
1900	39	26
1901	32	28
1902	35*	22*
1903	31	21
1904	36	27
1905	40	24
1906	28	19
1907	47	29

* 53 weeks.

Puerperal Fever (*continued*).

The deaths from puerperal fever were in the proportion of one in every 539 births. This is a higher proportion than in other previous years, as will be seen from the following figures :—

1901	1 death in	598	births.
1902	,,	777	,,
1903	,,	803	,,
1904	,,	626	,,
1905	,,	658	,,
1906	,,	843	,,
1907	,,	539	,,

From various other diseases and accidents of child-birth, there were 27 deaths, which is a much smaller figure than usual, and brings the total mortality in child-birth below the average. This latter mortality was in the proportion of one death to every 279 births, while in 1906 there was one in 219, and in 1905 one in 251. The figures for ten years are given below :—

1898	1 death in	234	births.
1899	,,	229	,,
1900	,,	209	,,
1901	,,	229	,,
1902	,,	290	,,
1903	,,	264	,,
1904	,,	307	,,
1905	,,	251	,,
1906	,,	219	,,
1907	,,	279	,,

MIDWIVES ACT, 1902.

Midwives Act.

The total number of certified midwives on the roll as practising in the City of Birmingham on December 31st, 1907, was 221, as compared with 219 in 1906, and 210 in 1905. It is gratifying to note that there has been no decrease in the number of midwives up to the present time. On April 1st, 1910, a large number of women who have failed for one reason or another to become registered, or who have, if registered, had their names removed from the midwives roll, will be required to cease practising for gain. This will at once throw a considerable amount of work into the hands of medical practitioners or registered midwives. There are probably about 50 such women in the City, and of these at least 20 have a considerable practice.

Untrained midwives.

Of the 221 registered midwives in Birmingham 6 do not engage in midwifery work, but act as midwifery nurses, leaving 215 who practise their calling. Of this number 205, equal to 93 per cent., have had no training whatever other than the lectures given by the midwife visitor of the Corporation. In last year's report it was pointed out that

among the large towns Birmingham had a particularly high percentage of untrained midwives, there being 90 per cent. of such women, while in London there were only 10 per cent., and in Liverpool 12 per cent. Neglect of rules by midwife (*continued*).

During the year 1907 four of the certified midwives have given up practice on account of ill-health. Three others have died, while in two cases the name of the midwife has been struck off the roll and the certificates cancelled because of misconduct.

The effect of the working of the Act has been to throw much more work into the hands of the cleaner and better trained midwives, and to reduce the number of cases which have been attended by the ignorant and least efficient midwives. The number of cases attended by midwives during 1906 and 1907 are set out below :— No. of Births attended by midwives.

No. of Cases attended.	No. of Midwives. 1906.	1907.
Less than 50 births	125	119
Between 50 and 100	39	46
,, 100 and 150	17	14
,, 150 and 200	2	4
Over 200	8	7

Two hundred and fifteen of the practising midwives have reported attending 9,385 births during the year, equal to about 43 cases per midwife. In 1906 the number of births attended by the practising midwives was 9,137. It may, therefore, be safely said that at least 10,000 births are attended each year in Birmingham by registered and unregistered women.

The Health Committee have insisted that each midwife shall send for medical help in every case where she is required to do so by the rules of the Central Midwives Board, and during the year under review 364 reports were received to this effect, that is, in 3·8 per cent. of the cases the midwife reported that it was necessary to send for medical help. The reasons given for sending were as follows :— Midwives and medical help.

Delayed labour	83	Convulsions	6
Hæmorrhage	36	Excessive sickness	3
Abnormal presentation ...	54	Eclampsia	1
Adherent or retained placenta	29	Albuminuria	1
Lacerated perineum	25	Hysteria	1
High temperature	26	Jaundice	1
Prolapse of funis	8	Spina bifida	1
Exhaustion	2	Unsatisfactory progress ...	14
Contracted pelvis	16	Heart weakness	1
Ophthalmia	5	Rupture of umbilical cord	1
Debility of child	21	Insanity	1
Still birth	1	Cleft palate	1
Abortion	8	Atelectasis	1
Twins	2	Puerperal Fever	1
Bronchitis	1		

Twenty reports were received notifying the death of the child before the arrival of a doctor.

Still births.

Great importance is attached to the notification of still births. Of these 282 were reported. In each case a visit was made immediately on receipt of the report, and where there is no obvious cause for death enquiry is made of the midwife. No less than 118 of these still-born children were apparently born at full time. The majority of the latter were found to be macerated, and the death obviously was not in any way attributable to carelessness on the part of the midwife.

Puerperal fever.

Forty-seven cases of puerperal fever were reported in the City during the year. Fourteen of these occurred in the practice of medical men, there being no midwife in attendance, while 32 cases occurred among cases attended by certified midwives, and one case occurred in the cases attended by an uncertified midwife. This would give approximately one case in every 500 attended by medical men, and one in every 300 attended by midwives.

Inspection by midwife-visitor.

Each midwife had her apparatus and her method of practice inspected during the year by the midwife visitor. In the case of the more competent midwives this inspection was limited to not more than two visits, but a considerable number of visits were paid to the more ignorant and neg-

Neglect of rules by midwives.

lectful. As a result of these visits, or as the result of information otherwise received, it was found that in certain cases greater or less infringement of the rules had taken place, or that there had been neglect, and in the grosser cases the midwife was asked to appear before the Health Committee. Such cases were dealt with as follows :—

February 12th, 1907. *Midwife No.* 20,410.—Charged with not taking the necessary antiseptic precautions after being in attendance on a septic case, and also with not keeping a correct register of her cases. Reprimanded by the Health Committee.

February 26th, 1907. *Midwife No.* 249.—Charged with not calling in medical assistance in the case of breech presentation in the primipara (child was still-born), and not keeping a correct register of cases. As this midwife had been previously cautioned in a similar case, it was decided by the Health Committee to report her to the Central Midwives Board. She was afterwards reprimanded and cautioned by the Board.

Neglect of rules by midwives (*continued*).

February 26th, 1907. *Midwife No.* 20,696.—Charged with not calling in medical assistance in a case of breech presentation in a primipara (child was still born). Reprimanded by the Health Committee.

July 23rd, 1907. *Midwife No.* 19,847.—Charged with failing to recognise obvious symptoms of illness and to advise that medical assistance should be sought at an early stage of the illness in two of her cases, one of whom died, and also with not having the necessary disinfection carried out to the satisfaction of the local supervising authority, and keeping her house in a dirty condition. She was severely reprimanded and cautioned by the Health Committee.

October 8th, 1907. *Midwife No.* 20,279.—Charged with not keeping a register of cases; with not wearing a dress of washable material; with not having the necessary apparatus; with not calling in medical assistance in a case of severe ophthalmia, and with not advising that medical help should be sought when the patient had obvious signs of puerperal fever. It was decided to report this midwife to the Central Midwives Board (she was 75 years of age and unable to read or write), and her name has since been removed from the Midwives roll, and her certificate cancelled.

October 8th, 1907. *Midwife No.* 268.—Charged with uncleanliness; with not advising that medical help be sent for in a case of serious illness until too late to save the patient's life, and with not notifying the case to the Local Supervising Authority in accordance with the rules. She was reprimanded and cautioned by the Health Committee.

December 10th, 1907. *Midwife No.* 6,614.—Charged with habitual uncleanliness; not having the necessary apparatus; not advising that medical help should be sent for in a case of severe ophthalmia, and not notifying her change of address. As this midwife had been previously cautioned by the Health Committee, it was decided to report her to the Central Midwives Board, and her name has since been removed, and her certificate cancelled.

November 25th, 1907. *Midwife No.* 13,214.—Charged with not notifying that she had called in medical assistance, and also with making an incorrect entry of cases in her register. She was reprimanded and cautioned by the Health Committee.

Midwives and infectious cases.

During the year 1907 a copy of the new rules issued by the Central Midwives Board was distributed to each registered midwife in the City. In addition printed instructions as to what to do in cases of infection were issued. These instructions are as follows :—

"CITY OF BIRMINGHAM.

"MIDWIVES ACT, 1902.

"RULES TO BE OBSERVED BY A MIDWIFE WHO HAS BEEN IN ATTENDANCE UPON A PATIENT SUFFERING FROM PUERPERAL FEVER, OR FROM ANY OTHER ILLNESS SUPPOSED TO BE INFECTIOUS.

"1.—PUERPERAL FEVER.

"(*a*) As soon as the Midwife becomes aware or suspects that a patient on whom she is in attendance is suffering from Puerperal Fever (or other illness which is infectious) she shall at once discontinue attendance on any other lying-in patients, and take all reasonable care that her own clothing and apparatus shall receive as little of the infection as possible.

"(*b*) She should continue attending on the patient unless authorised by a medical practitioner or other responsible person to discontinue.

"(*c*) At the termination of the illness, or when otherwise directed, she shall carry out the following instructions for the complete disinfection of herself, her clothing, and her apparatus.

"INSTRUCTIONS.

"(1) She shall absent herself from practice for seven days, to enable her to carry out proper disinfection.

"(2.) She shall send to the Health Department,* Council House, Birmingham, within 24 hours, her bonnet, gloves, cloak, and any other

"* NOTE.—If a request is made by postcard to the Health Department, a van will be sent to fetch the articles for disinfection, and return them within 24 hours, free of charge."

Midwives and infectious cases (*continued*).

unwashable clothing for disinfection. All washable clothing, together with the sheets of her bed, shall be soaked for twelve hours in one of the following solutions :—

Lysol	...	3 tablespoonfuls to 1 gallon water.
Cyllin	...	2 tablespoonfuls to 1 gallon water.
Izal	...	2 tablespoonfuls to 1 gallon water.

" (3) She shall have three hot baths, and shall wash her hair once during the week. She shall sterilise her hands and forearms once a day for five days (independently of the bath), and for this purpose shall adopt the following method :— Scrub thoroughly with nail brush and soap in hot water, for not less than five minutes, and afterwards soak thoroughly in a warm solution of Lysol, Cyllin, or Izal (two teaspoonfuls to one pint), for five minutes.

" A supply of Disinfectant may be obtained for the above purpose from the Midwife Visitor at The Council House.

" (4) She shall spend the greater part of each day in the open air.

" (5) Boil for one hour all the apparatus which she carries with her, and which will not be destroyed by boiling, such as douches, catheters, soap boxes, basins, etc. The nail brush, pins, threads, etc., must be burnt. Bottles must be soaked in a solution of Lysol. Baskets and linings must be soaked in Lysol solution. Leather bags must be sponged with Lysol.

" 2.—Scarlet Fever, Erysipelas, and Diseases in which pus (' matter ') is discharged.

" (*a*) A Midwife must discontinue attendance on lying-in women when one of the above diseases exists in her home, and apply for instructions as to how to deal with the situation to the Health Department, Council House.

" John Robertson,

" *Medical Officer of Health.*"

Notice suspending midwife.

In order that no mistake should be made by a registered midwife when puerperal fever or other infection was found to exist, the following form of suspension was made use of, and has been of considerable value :—

"CITY OF BIRMINGHAM.

"MIDWIVES ACT, 1902, S. 8.

"NOTICE OF SUSPENSION OF MIDWIFE.

"*To*.....
.....
.....
.....

"Acting on the instructions of the Health Committee of the Council of the City of Birmingham, being the Local Supervising Authority under the above Act for the said City, and in accordance with the rules of the Central Midwives Board under the above Act, your suspension appearing necessary, in order to prevent the spread of infection, I HEREBY GIVE YOU NOTICE that you are suspended from practising as a Midwife.....
.....
.....
from this date.....
.....

"You are directed to carry out the instructions for thorough disinfection printed on the back of this notice
.....

"The reason for your suspension is that you have been in close contact with a dangerous infection, to wit.....
.....
.....

"Dated.....19.....

"(Signed).....
"*Medical Officer of Health.*

"On behalf of the above-mentioned Local Supervising Authority for the said City of Birmingham.

"The Council House, Birmingham."

Instruction of midwives.

The demonstrations to midwives which were instituted in 1905 were given in 1907, and will be continued in the future. Such demonstrations have been the means of enabling a large number of the women to read a clinical thermometer and, particularly, to appreciate the points in rendering their hands clean. The best guide which a midwife can have as to the condition of her patient is a correct record of the temperature. Except in the case of about 50 midwives who are unable to read or write, or whose eyesight is defective, all the midwives in Birmingham have been instructed to keep a record of the temperature of each patient attended during the first ten days after confinement, and for this purpose a letter was sent to each midwife, together with a book of simple forms for recording the temperatures. The following is a copy of the letter and form of record :—

Midwives and temperature records.

"City of Birmingham.

"Health Department,

"The Council House,

"*October 23rd*, 1907.

"Madam,

"The attention of the Health Committee has been drawn by the Central Midwives Board to the importance of asking midwives practising within the City of Birmingham to take and record regularly the pulse and temperature of every case under their care, as changes of temperature and pulse are the earliest and surest indication of the onset of Puerperal Fever at a time when the disease is amenable to treatment.

"I shall, therefore, be much obliged if you will take steps to do this systematically, and for this purpose I have had the enclosed booklet printed so that you may carry the charts with you and record the temperatures.

"Yours faithfully,

"John Robertson."

NAME ..... DATE OF LABOUR			NAME..... DATE OF LABOUR		
Day	Pulse	Temperature	Day	Pulse	Temperature
1			1		
2			2		
3			3		
4			4		
5			5		
6			6		
7			7		
8			8		
9			9		
10			10		

Medical help in very poor cases.

Considerable difficulty is experienced by midwives in the poorer class districts in obtaining medical assistance in urgent cases. These cases may occasionally be septic or complicated, and in the majority of instances the patient is unable to pay a reasonable fee. It is therefore not altogether unreasonable to find that doctors do not like being called in to such cases. The general fear amongst the medical profession is that an infectious case may do an enormous amount of damage to their general practice. There is in addition the fact that in the majority of such cases no remuneration is forthcoming.

It has been suggested that the sanitary authority should provide medical assistance in such cases. Such a suggestion is open to a great deal of objection in many respects. It would certainly tend to the establishment of another department of medical relief, and in addition the municipality, without special powers, would not be able to recover the cost of such medical attendance. What has always appeared to be the most satisfactory method of dealing with the question has been brought to the attention of the various Boards of Guardians in the circular letter issued by the Local Government Board on July 29th, 1907. The section referring to this matter is printed below :—

" The Board desire to take this opportunity of bringing under the notice of the Guardians their views on a question which, as their correspondence shows, has been a source of considerable difficulty to Boards of Guardians and other local authorities. The Board refer to the question of the payment for medical assistance in those cases where, under No. 18 of the enclosed rules, a midwife has advised that such assistance should be obtained.

" With regard to this matter, the Board may refer to the provisions in Articles 182 and 183 of the General Consolidated Order, where these or similar Articles in other Orders are in force, and also to the enactment in Section 2 of the Poor Law Amendment Act, 1848 (11 and 12 Vict., c. 110).

" If, where the Articles referred to are in force, the District Medical Officer attends in cases of the kind above mentioned, he will be entitled to the payments for which the Articles provide, should the woman be actually in receipt of relief, or should the Guardians subsequently decide that she was in a destitute condition, although no order for his attendance was given by a person legally qualified to make such order. Moreover, the section alluded to empowers the Guardians, ' if they think proper, ' to pay for any medical or other assistance which shall be ' rendered to any poor person on the happening of any

Medical help in very poor cases. (*continued*).

'accident, bodily casualty, or sudden illness, although no 'order shall have been given for the same by them or any 'of their officers, or by the overseers,' and the Board are advised that, under this enactment, it is competent to the Guardians to pay the fee of any medical man called in on the advice of a midwife to attend upon a poor person in case of difficulty.

"The Board would suggest that medical men and certified midwives practising in the Poor Law Union should be informed that, in cases arising under Rule 18, the Guardians will, on being satisfied that the woman is too poor to pay the medical fee, be prepared to exercise their powers under the Section and to pay a reasonable remuneration to the medical man called in. Any such payments should be on a definite scale, which should be suitable to the local circumstances and to the services rendered, and which should be duly notified to the local medical practitioners.

"It appears to the Board that the exercise by Boards of Guardians in a careful but liberal spirit of their powers under the enactment quoted will furnish a satisfactory solution of the problem to which they have referred, and that no reasonable ground of complaint should remain either to the public or to the medical profession. Moreover, general action on the part of Boards of Guardians in the direction indicated would tend to the preservation of two most important principles which are in danger of being overlooked; first, the responsibility of the husband or natural guardian of the patient to provide for her necessities, and secondly, the right of the Guardians to determine who, by reason of poverty, is entitled to medical assistance at the expense of the rates."

The Board of Guardians for the Parish of Birmingham have arranged an effective scheme whereby they are prepared to pay for the services of the nearest medical man called in by a midwife, and the Health Committee have supplied the midwives with cards to be used when such service is required, the form of card being as follows:—

"PARISH OF BIRMINGHAM ONLY.

"INSTRUCTIONS TO MIDWIVES.

"I. This form must only be used in cases where the Midwife is satisfied that there is apparent inability to pay for the services of a private medical practitioner.

Medical help in very poor cases (*continued*).

"II. Except in cases of great urgency or when the patient's husband cannot be found, the signed request of the patient's husband must in all cases be obtained.

"III. Care must be taken to send to the nearest Medical Practitioner.

"The Board of Guardians for the Parish of Birmingham have agreed to pay for the services of the nearest Medical man called by a Midwife in case of emergency where such patient is eligible for Parish Medical Relief. This arrangement is made for the three months ending March 31st, 1908.

"CITY OF BIRMINGHAM.

No..... *Date*.....

Name of Patient .....

Address .....

requires medical assistance at once on account of.....

.....

.....

Signed .....
Certified Midwife.

Sent to (Doctor) .....

at .....

Time of sending message .....

REQUEST.

"*I hereby declare that I am not in a position to provide the requisite Medical assistance for my wife, and I therefore apply for the services of a Doctor at the expense of the Board of Guardians for the Parish of Birmingham.*

"*Signed*.....
(Husband of the above Patient)."

Opening of maternity hospital.

During the year the building of the Maternity Hospital was completed, and the institution was opened in November. Such an institution was greatly needed in Birmingham to enable cases of difficult labour to be dealt with under the best possible conditions, and the hospital meets the needs of the district in this respect to an admirable degree.

The aspect of the question which is most important from the point of view of a sanitary authority is that it forms a first-class training school for midwives in the City, for while the number of beds available in the institution itself is not great, the number of external cases is so large as to provide ample material for efficient training and practice. It should always be remembered in this respect that these institutions not only train midwives for the poor, but give the best training to midwifery nurses who attend on the better classes, so that they are as necessary to midwives as general hospitals are to the medical profession. Without them efficient training cannot be arranged.

The hospital has been recognised by the Central Midwives Board as a training school for midwives, and effective courses of instruction are provided by a very competent staff.

Tubercular Diseases.

Tubercular diseases.

All of the diseases in this group are caused by the germ of tuberculosis, which spreads from person to person or from animal to man. Few people yet recognise the infectiousness of tuberculosis. Those, however, who are engaged in investigating the relationships between one case and another cannot help being profoundly struck by the fact that a very large number of the cases do give a history of exposure to infection. There is, however, this one great difference between tuberculosis and such a disease as smallpox, viz., that in the case of the latter the period which elapses between the inception of the germ into the body and the development of the disease is a short one, while in the case of tuberculosis it is often a very long one, probably in many instances lasting for five or even ten years.

Somewhat similar remarks were made in a previous report, and gave rise to comment from persons who are inclined to look upon tuberculosis as a disease more influenced by the condition of immunity than by infection. Those, however, who have daily contact with tuberculosis

cannot but be impressed with the number of cases in which there is strong presumptive evidence of infection. Tubercular diseases (*continued*).

In the case of bovine animals the evidence on this point is much stronger than in the case of the human subject, as these animals are much more confined and the evidence of exposure to infection is much more definite. There is no doubt whatever that a farmer may from a herd of very tuberculous animals breed a herd quite free from infection, provided he is skilful in avoiding infection in the new stock. This has actually been done on many occasions, and is indeed a practical way of eliminating bovine tuberculosis. In carrying out such an experiment great interest attaches to the numerous mistakes which are liable to be made by the farmer in not sufficiently protecting himself against stray infection.

The practical importance of these observations lies in the fact that it is highly important to educate the general public, and particularly those suffering from tuberculosis in its infectious stages, to the fact that the disease is one communicated from person to person, and that by somewhat simple precautions at least in the majority of cases the infection may be prevented from spreading. Nearly every case of tuberculosis of the lung (phthisis) commences as a non-infectious ailment. Most of the cases of tuberculosis of the joints and bones remain non-infectious during the whole course of the illness. For practical purposes, therefore, it is probable that the large majority of human infections are derived from more or less advanced cases of tuberculosis of the lung.

The total number of deaths from all forms of tuberculosis during the year was 922, as compared with 884 in 1906, 999 in 1905, and 1071 in 1904. The total mortality from each of the forms of tuberculosis, together with the mortality rate from the whole group, is stated below :—

DISEASE.	1895	*1896	1897	1898	1899	1900	1901	*1902	1903	1904	1905	1906	1907
Abdominal Tuberculosis...	66	61	57	64	78	104	131	92	113	107	94	68	77
Tubercular Meningitis ...	94	76	79	102	63	56	88	63	73	73	68	75	73
Phthisis ...	718	694	679	718	841	847	903	874	754	806	759	672	675
Other forms of Tuberculosis...	127	121	122	70	96	71	83	64	85	85	78	69	97
Total deaths ...	1005	952	937	954	1078	1078	1205	1093	1025	1071	999	884	922
Mortality rate	2·02	1·87	1·86	1·87	2·10	2·08	2·30	2·04	1·93	2·00	1·84	1·62	1·67

*53 weeks.

Reduction in phthisis mortality.

The mortality from phthisis is very much greater than that from any other member of the above group; but while this so, it is gratifying to know that the mortality during recent years is distinctly lower than formerly. In a chart in the report for 1906 it was shown that the rate in Birmingham had decreased from 2·58 per 1000 in 1865 to 1·22 per 1000 in 1905. It is pleasing to note that since 1905 the rate has continued to decrease.

Phthisis among males and females.

In the case of pulmonary phthisis also the mortality is every year very much higher among males than females, as is indicated by the following figures:—

	Males.		Females.
1904	2·00	...	1·03
1905	1·94	...	0·89
1906	1·66	...	0·82
1907	1·67	...	0·80

If instead of taking all males and all females we took only the number of males and females who died from pulmonary phthisis between the ages of 15 and 55, and struck a rate on the number of males and females living at these ages, we get an even greater difference, viz., 2·36 for males, and 1·09 for females.

Prevention of phthisis.

As to what is being done in the City to prevent this very fatal disease, it is not necessary to mention the general work, which, however indirect, is recognised to be of prime importance, viz., better housing, better feeding, better workshop conditions, and better living. A large part of the reduction in the past has been due to the improvement which has taken place in these conditions during the last 50 years. Within recent years, however, an attack has been directly made on the infection from man and also from animals.

In regard to the former voluntary notification of the worst cases has enabled advice to be given as to the methods of prevention. It has also enabled disinfection to be carried out.

Voluntary notification of phthisis.

During the year 911 cases of phthisis were notified under the system of voluntary notification. Of these 134 were second notifications and 26 referred to cases outside the City boundary, making a total of 751 new cases for the year, as compared with 658 in the year 1906. Of these 751 cases, 555 were notified by the Medical Officers of the Dispensaries and other public institutions in the City, while 196 were cases from other medical practitioners. All of these 751 cases were visited, and in each, in addition to verbal

instructions regarding the precautions to be observed to prevent the spread of the disease, a copy of the printed advice on the prevention of consumption drawn up by your Medical Officer of Health was given.

Voluntary notification of phthisis (*continued*).

In 422 deaths from phthisis which were not notified as cases, visits of inspection were made to ascertain the condition of the houses as regards cleanliness, lighting, bedroom accommodation, ventilation, etc. Disinfection of the bedding and rooms was carried out after all these deaths as well as after the removal of certain cases. The total number of houses thus disinfected during the year was 692, as compared with 554 in the previous year.

Since May last the practice has been instituted of issuing a letter to the owner of any house in which a death from phthisis occurs, and which specially requires cleansing, requesting him to have the paper stripped off the walls of the room or rooms occupied by the patient on account of the liability of infection remaining thereon. 250 such letters have been sent, and all have been readily complied with. In addition, in 20 houses requiring repairs notices have been sent and the work duly done.

Much good work is being done in this field of voluntary notification. This is exemplified on re-visitation of patients by the improved conditions under which they live, especially as regards sunlight and fresh air, their recognition of the infectiousness of their disease, and the greater care which they take to prevent its spread to others in the same household, for example by obtaining a separate bed if not a separate sleeping apartment, or by using a spitting cup. Still the advantages which this system offers are not partaken of to the fullest extent. All cases are not notified. The total number of deaths from phthisis during the year was 675, and of these only 253 were notified as suffering from phthisis prior to death. In this proportion for the total number of cases notified, namely, 751, there would be 2004 cases of phthisis in the City altogether, or 1253 unnotified cases. From the small figures at our command too great reliance cannot be placed on this estimate, yet it shows that many cases do not come under the notice of the department, and therefore presumably do not have the opportunity of acquiring that knowledge of the hygienic conditions under which they should live in their own interest as well as that of the community. The increase in the number of voluntary notifications from 658 in 1906 to 751 in 1907 shows that the system is being approved, and doubtless in the course of a few years very few cases will not be under the supervision of the Sanitary Authority.

Voluntary notification of phthisis (*continued*).

It is also to be noted that the good work which the various Sanatoria throughout the country are doing could be greatly enhanced in value if proper arrangements were made for the after care of discharged patients. Many patients who have undergone Sanatorium treatment for a longer or shorter period return to their homes in the belief that they are permanently cured, and taking no care, their disease breaks out afresh, and only then do they come under the supervision of the department by voluntary notification. Were it possible for these cases to be put directly under the supervision of the Health Department on leaving the Sanatorium, it is not unlikely that in many instances there would be no recrudescence of the arrested disease, and thus many, instead of falling into a rapid decline, would remain able to lead the lives of useful citizens. This could surely be attained by active co-operation between Sanatorium and Public Health Authorities throughout the country.

Phthisis and bacteriological examinations.

Appended is a statement showing the bacteriological examinations carried out at the University in connection with suspected phthisical sputa and the percentage of notifications from these results :—

Total number of sputa examined during year ...	412	
,, ,, positive results	153	
,, ,, negative results	259	
Number of positive results notified	96	or 62·7%
,, ,, ,, ,, not notified	57	or 37·3%
,, ,, negative results notified	14	or 5·4%
,, ,, ,, ,, not notified	245	or 94·6%

Phthisis sanatorium.

During the year the approval of the City Council and of the Local Government Board was obtained for the purchase of a site for the erection of a municipal sanatorium to treat 40 patients on lines which our experience indicates will differ considerably from those of any other sanatorium in this country.

In the first place it has been decided that only cases in an early stage of the disease shall be admitted, and of these only such as are likely to be permanently benefitted by the treatment. (2) In order to ensure that such patients shall be admitted, an expert examiner is to be appointed, and patients will be treated at the sanatorium for a time sufficient to meet the needs of each case, and (3) admission to the sanatorium will only be given to those who undertake voluntarily to place themselves under our supervision, so

far as this is practicable, during the two years after discharge from the sanatorium. In this way it is hoped that the disappointing results obtained in so many sanatoria will be avoided, and it is almost certain that great benefit will follow. Phthisis sanatorium (*continued*).

The plans for this sanatorium were approved by the Health Committee, and the erection was commenced during the present year. In a subsequent report full details will be given.

In addition to the prevention of infection from the human subject, the Health Committee during the year 1907 had an investigation made into the liability of infection from milch cows, and a special report was issued on this subject on October 8th. This report will be found as an appendix at the end of the present volume. As a result of the report mentioned, a conference was called by the City of Birmingham, representing the large towns in which experience had been gained as to the examination of milk, and was held in February of this year. There appears to be a real need for the elimination of tuberculosis in the human subject from this source, and it is gratifying to be able to report that an effort is being made in this direction. Bovine tuberculosis.

OTHER CAUSES OF DEATH.

Syphilis.—There were 32 deaths registered as due to syphilis, as compared with 35 in the previous year. Nearly the whole of these, viz., 25 out of 32, were in infants under 1 year old. Syphilis.

Alcoholism.—Twenty deaths were certified as due to alcoholism. For the past three years the deaths directly set down to this cause have been below the average, as will be seen from the figures below :— Alcoholism.

DEATHS FROM ALCOHOLISM.

1898	...	49	1903	...	31
1899	...	43	1904	...	32
1900	...	27	1905	...	19
1901	...	44	1906	...	21
1902	...	24*	1907	...	20

* 53 weeks.

Alcoholism (*continued*).

The deaths from cirrhosis of the liver, which is closely connected with alcoholism, also show a reduction, the figures being as follows :—

	Alcoholism.	Cirrhosis of Liver.	Total.
1898 ...	49	91	140
1899 ...	43	92	135
1900 ...	27	111	138
1901 ...	44	94	138
1902 ...	24*	95*	119*
1903 ...	31	100	131
1904 ...	32	71	103
1905 ...	19	80	99
1906 ...	21	71	92
1907 ...	20	74	94

*53 weeks.

If reliance can be placed on the above figures as indicating the real mortality from alcoholism, it would appear that this mortality has appreciably diminished during the last few years.

Cancer.

Cancer.—In my last annual report comment was made on a further increase in the mortality from cancer. In 1897 there was a considerable decrease, which has brought the cancer death-rate to about the average figure, as will be seen below :—

	Total deaths from Cancer in Birmingham.	Death-rate per 1,000 in Birmingham.	Death-rate per 1,000 in England and Wales.
1898	342	... ·67	... ·80
1899	386	... ·75	... ·83
1900	368	... ·71	... ·83
1901	395	... ·76	... ·84
1902	383*	... ·72	... ·84
1903	413	... ·78	... ·87
1904	400	... ·74	... ·88
1905	437	... ·81	... ·88
1906	460	... ·84	... ·92
1907	419	... ·76	... —

*53 weeks.

Of the 419 deaths 168 were those of males and 251 those of females. The mortality at different ages and in the two sexes was as follows :—

	Deaths from Cancer during 1907. Males.	Females.	Total.
Under 1 year	1	0	1
1 and under 5 years	1	0	1
5 ,, 10 ,, ...	1	0	1
10 ,, 15 ,, ...	0	0	0
15 ,, 20 ,, ...	3	0	3
20 ,, 25 ,, ...	3	0	3
25 ,, 35 ,, ...	2	6	8
35 ,, 45 ,, ...	14	35	49
45 ,, 55 ,, ...	43	60	103
55 ,, 65 ,, ...	44	73	117
65 ,, 75 ,, ...	44	52	96
75 ,, 85 ,, ...	11	23	34
85 and upwards	1	2	3
Total	168	251	419

The next statement shows the death-rates from cancer in the different wards during the past five years :— Cancer (*continued*).

	1903.	1904.	1905.	1906.	1907.	Mean of five years.
Rotton Park	·77	·97	·87	·73	·73	·81
All Saints'	·66	·77	·88	·85	·64	·76
Ladywood	1·07	1·03	1·01	·81	1·01	·99
St. Paul's	·96	·57	·96	·86	1·11	·89
St. George's	·93	·39	·59	·78	·55	·65
St. Stephen's	·59	·64	·77	·87	·52	·68
St. Mary's	·74	·38	·71	1·30	·45	·72
St. Bartholomew's ...	·87	·85	·73	·85	1·04	·87
Market Hall	·63	·76	·88	·74	·67	·74
St. Thomas'	·75	·37	·81	1·16	·81	·78
St. Martin's	·58	·86	·85	·79	·79	·77
Edgbaston & Harborne	·86	·96	1·00	1·01	·87	·94
Deritend	·83	·79	·93	1·47	1·04	1·01
Bordesley	·56	·70	·58	·70	·78	·66
Duddeston	·85	·72	·90	·74	·74	·79
Nechells	·71	·66	·64	·89	·71	·72
Balsall Heath	1·07	·87	·99	·83	·90	·93
Saltley	·62	·58	·66	·65	·57	·62

Premature Birth.—In the next statement will be found the mortality from premature birth in Birmingham compared with that of England and Wales :— Premature Birth.

	Deaths.	Death-rate per 1,000. Birmingham.	England and Wales.
1898 ...	372 ...	·73 ...	·58
1899 ...	367 ...	·71 ...	·58
1900 ...	353 ...	·68 ...	·57
1901 ...	349 ...	·67 ...	·57
1902 ...	361 ...	·67 ...	·57
1903 ...	365 ...	·68 ...	·57
1904 ...	377 ...	·70 ...	·58
1905 ...	304 ...	·56 ...	·55
1906 ...	323 ...	·59 ...	·55
1907 ...	319 ...	·58 ...	—

It will be noted that both in Birmingham and in the whole country there has been a reduction in the mortality from this cause, the reduction being greater in our City than in the whole country.

Bronchitis.—A slight increase has taken place in the mortality from bronchitis, as compared with the two previous years, though it is still below the average. The figures are as follows :— Bronchitis.

	Death-rate per 1,000. Birmingham.	England and Wales.
1898 ...	— ...	1·48
1899 ...	— ...	1·61
1900 ...	— ...	1·69
1901 ...	2·06 ...	1·36
1902 ...	1·88 ...	1·32
1903 ...	1·69 ...	1·11
1904 ...	2·00 ...	1·25
1905 ...	1·62 ...	1·14
1906 ...	1·61 ...	1·03
1907 ...	1·67 ...	—

Pneumonia.

Pneumonia.—This disease caused 867 deaths, against 768 in 1906. Of these 148 were due to lobar pneumonia, 441 to broncho-pneumonia, and 278 to pneumonia not defined. A very large proportion of the deaths were those of young children. The death-rates for Birmingham and for England and Wales are given below :—

	Death-rate per 1,000.	
	Birmingham.	England and Wales.
1898 ...	— ...	1·12
1899 ...	— ...	1·25
1900 ...	— ...	1·37
1901 ...	1·73 ...	1·15
1902 ...	1·60 ...	1·41
1903 ...	1·45 ...	1·22
1904 ...	1·67 ...	1·28
1905 ...	1·49 ...	1·30
1906 ...	1·40 ...	1·22
1907 ...	1·57 ...	—

Suffocation.

Accidental Suffocation.—The deaths from this cause numbered 81, as compared with 93 in 1906. It is pleasing to record a decrease in this preventable cause of death, though the mortality is still about three times as high as in England and Wales. The figures are as follows :—

DEATH-RATE FROM ACCIDENTAL SUFFOCATION.

	Birmingham.	England and Wales.
1898 ...	·21 ...	·07
1899 ...	·19 ...	·07
1900 ...	·19 ...	·07
1901 ...	·18 ...	·06
1902 ...	·14 ...	·06
1903 ...	·19 ...	·06
1904 ...	·18 ...	·06
1905 ...	·15 ...	·05
1906 ...	·17 ...	·05
1907 ...	·15 ...	—

Of the 81 deaths from suffocation 73 were those of infants who were overlaid.

Violent deaths.

Deaths from Violence.—The Annual Summary of the Registrar-General gives the following death rates from violence during 1907 :—

London	...	0·56	Leeds	...	0·55
Liverpool	...	0·76	Sheffield	...	0·57
Manchester	...	0·75	Bristol	...	0·50
Birmingham	...	0·59	Bradford	...	0·53

DEATHS IN PUBLIC INSTITUTIONS.

Deaths in institutions.

According to the Registrar-General's Annual Summary there were 2,199 deaths in public institutions in Birmingham, or nearly 25 per cent. of the total deaths. In other large towns the percentages were in London 38, Liverpool, 32, Manchester 26, Sheffield 19, Leeds 17, Bristol 24. In the districts around Birmingham they were in Handsworth, 9 ; West Bromwich, 13 ; King's Norton, 9 ; Smethwick, 10 ; Aston Manor, 13.

DISINFECTION.

Disinfection.

The following statement shows the number of houses and the articles of clothing and bedding disinfected during the year :—

	1903	1904	1905	1906	1907
Houses disinfected after Small-pox	229	10	32	0	0
,, ,, ,, Puerperal Fever	27	38	35	26	33
,, ,, ,, Scarlet Fever	2410	1508	1487	1611	2258
,, ,, ,, Diphtheria and Croup ...	656	553	636	691	972
,, ,, ,, Typhoid Fever	309	237	190	172	217
,, ,, ,, Phthisis ...	461	564	649	554	692
Beds and Mattresses disinfected ...	5215	6564	6788	6456	8072
Sheets, Blankets and Counterpanes disinfected	12182	11156	9877	10316	12442
Pillows and Bolsters disinfected ...	7730	6986	6894	6970	8972
Garments disinfected	27706	13167	9946	10693	10310
Carpets disinfected	1469	2457	2164	2335	2858
Other Articles disinfected	5654	9940	8937	10529	10438

CITY HOSPITALS.

City Hospitals.

The following table shows the number of patients* admitted to the City Hospitals since they were first opened by the Corporation :—

	Smallpox.	Scarlet Fever.	Diphtheria.	Typhoid Fever.
1874	194	...	...	...
1875	420	20	...	...
1876	11	38	...	...
1877	38	43	...	...
1878	20	424	...	...
1879	4	184	...	...
1880	16	170	...	...
1881	17	333	...	...
1882	105	627	...	...
1883	1090	638	...	...
1884	437	360	...	...
1885	81	204	...	...
1886	2	428	...	...
1887	10	438	...	...
1888	18	528	...	...
1889	0	1801	...	...
1890	0	2525	...	...
1891	44	1225	...	...
1892	24	1131	...	...
1893	963	1339	...	...
1894	2050	1539	...	...
1895	98	2595	...	...
1896	14†	2812	...	...
1897	0	1641	...	...
1898	0	1083	...	...
1899	0	1052	...	...
1900	0	1814	...	...
1901	0	2959	...	229
1902	68	4534	...	119
1903	250	2455	...	14
1904	8	1437	...	119
1905	36	1489	321	109
1906	0	1557	425	121
1907	0	2243	650	153

* In a small percentage of the cases the disease proved not to be that for which the patient was admitted.

† Removed to Aston Smallpox Hospital, by arrangement with the District Council.

Particulars as to the work of the hospitals are given under the heading of the special diseases.

DISEASES OF ANIMALS COMMUNICABLE TO MAN.

The following report has been supplied by Mr.J.Malcolm, F.R.C.V.S., the Veterinary Superintendent, who deals with all matters relating to the diseases of animals which may be spread to man.

Glanders and Farcy.

"*Glanders and Farcy.*—The returns of the cases certified of this disease in Birmingham for 1907 reveal a distinct increase compared with those for any recent year. Last year 48 cases were certified as against 33, 25, and 34 for the years 1906-5-4 respectively. These figures clearly mark the futility of the measures that have hitherto been in force to deal effectively with glanders in a large centre of horse population such as Birmingham. Old horses from a wide area are continually being brought into the City for disposal at one or other of the Repositories' weekly sales, and this naturally facilitates the spread of glanders by sale of horses with latent disease. It is only fair to observe, however, that the increase in number of cases recorded does not necessarily indicate a corresponding increase in the prevalence of the disease, and the more frequent use of mallein in diagnosing latent cases may easily account for part of the increase. The disease has occurred chiefly in five main centres of infection. Two of these originated in the purchase of horses with latent glanders. Another two were traceable to these, and the fifth could not be traced. The remaining cases in the City were traceable either directly or indirectly to the five. In the infected stables the spread of the disease has been facilitated by stalls being fitted with bails instead of stall divisions, and in one outbreak at least by the use of a common water trough where all the horses were allowed to drink. The Board of Agriculture 1907 statistics for the country generally afford evidence of little diminution in the prevalence of glanders and farcy. The published figures for the last three years are as follows :—

Year.	Animals attacked.
1905	2068
1906	2012
1907	1934

It may be predicted that with the new glanders and farcy Order, the provisions of which come into operation from January 1st, 1908, and which practically give compulsory power to enforce the diagnostic use

of mallein, better results will speedily follow. Again it is a pleasure to record that, notwithstanding the prevalence of this disease in horses in Birmingham, there has been no case or suspected case of glanders in man. Glanders and Farcy (*continued*).

"*Anthrax.*—In 1907 only two cases of anthrax in animals were detected in the City—one being the carcase of a heifer and the other that of a bullock. Though both animals died, the carcases were dressed and sent to the Markets for sale, but marked for inspection. Fortunately the Inspector in both cases suspected the nature of the disease, and his suspicion was subsequently confirmed. Besides these several pigs after slaughter were suspected of having been affected with anthrax, but after special examination none of these were found to be affected. The published record of cases for Great Britain according to the Board of Agriculture proceedings shows no evidence of reduction in the prevalence of anthrax. The figures for the last three years are as follows :— Anthrax.

Year.	Animals attacked.
1905	1317
1906	1326
1907	1456

The origin of many of these cases could not be traced, and although some of them are no doubt due to previously infected land, others are very probably due to infection present in feeding stuffs and other imported materials.

"*Rabies.*—It is a pleasure again to be able to report that no case of rabies occurred in this country last year. In no instance did any dog in Birmingham show any symptoms suspicious of rabies. In the whole of Great Britain it appears from the Board of Agriculture proceedings that 55 suspected cases were reported, but in none of these was the disease confirmed. So long as the Board retains its present wise regulations governing the importation of dogs, we may confidently anticipate continued freedom from rabies. Rabies.

"*Epizootic Lymphangitis.*—The wisdom of the stamping out process ultimately adopted by the Government in dealing with epizootic lymphangitis has been amply attested by its success. The country continues free from the disease. Epizootic Lymphangitis.

"*Swine Fever.*—Although there is no evidence that Swine Fever is communicable to man, there are abundant reasons for regarding the carcases and offal of affected pigs as unfit for human food, and the Board Swine fever.

Swine Fever (*continued*).

of Agriculture therefore proscribes the sale of all such food. The result of the stringent regulations in force as to the movement of pigs, and the strenuous official efforts exercised in the attempts to suppress swine fever, or at least to minimise its prevalence, can scarcely be regarded as satisfactory. The disease rather appears to be on the increase than the decrease. The not infrequent absence of recognisable diagnostic lesions, the protean character of the disease, and the subtlety of the infecting medium which makes it practically impossible in many cases to trace its source, materially adds to the difficulty of the undertaking the Board have in hand. Indeed from past experience it may safely be predicted that until some other and more effective preventive measures are available, or unless annihilation of pigs over much wider areas surrounding infected centres is prescribed, swine fever will likely continue unabated. In Birmingham those outbreaks which occur amongst pigs sent to the markets for sale are speedily suppressed through the imperative slaughter of all Birmingham market pigs within seven days ; but those occurring in pig feeders' stock are not always so easily dealt with, though on the whole Birmingham continues comparatively free from the disease.

Swine Erysipelas.

" *Swine Erysipelas.*—Cases of this unscheduled contagious disease continue to be met with. The practice of condemning badly affected carcases and passing those with very slight local indications of the disease is generally followed and fairly meets requirements.

Parasitic Mange.

" *Parasitic Mange.*—The prevalence of parasitic mange among horses in the City and district will in all probability lead to its being scheduled locally as a contagious disease, as has already been done in many districts throughout the country. Although the horse mange parasite appears to have only a comparatively transitory existence on man, stablemen and others infected with it experience considerable temporary irritation.

Tuberculosis.

" *Tuberculosis.*—Although tuberculosis has not yet been scheduled as a contagious disease, the fact that it arises solely by contagion, each case directly or indirectly from a pre-existing case, has long been recognised. And it is to be hoped that the Board of Agriculture recognising this will in the farming interest

EXAMPLES OF WORK WHICH THE HOUSING COMMITTEE CONSIDER INSUFFICIENT

NOTE.—There is a wall 32 feet high, distant only 19 feet from the front of the court-yard houses. Both ends of the court are shut in by high buildings.

NOTE.—The wall opposite these court-yard houses is 34 feet high, and is distant only 16 feet from the windows.

Tuberculosis (*continued*).

as well as that of public health at no distant date schedule under the Contagious Diseases Act at least all open or clinical cases of the disease. The vast majority of animals so affected are not only wasters, but the most prolific source of infection to others.

"The subject of tuberculosis and the milk supply in Birmingham has been so recently dealt with in a special report as to preclude it from being dealt with further here."

HOUSING OF THE WORKING CLASSES.

Housing of the working classes.

The year under review has been one of steady progress on the lines adopted by the Housing Committee some years ago. In certain areas of the town the cases dealt with have been so numerous as to make a decided improvement in the wholesomeness, comfort, and appearance of the houses.

In setting out in this report the record of work very few remarks need be added.

1. When the Housing Committee decided on the line of policy some years ago, they recognised very fully that unless the work was good and substantial and capable of lasting, great discredit would soon fall on it, and that very little benefit would accrue. In the early stages they occasionally had the greatest difficulty in inducing owners and others to realise the importance of making the repairs thorough in order that they might be lasting and economical in the long run. Fortunately, only in a very few cases have the Housing Committee not been able to get really substantial work done. In a few instances the repairing work has not been sufficient to render the houses free from the necessity of repairs in the near future. So-called slum patching is probably the most pernicious form of house repair that can be carried out by an owner, but yet in these cases it was extremely difficult to make the owner realise the desirability of avoiding this.

2. In a few cases the houses are still so shut in by surrounding buildings as to be unsuitable for dwelling houses. As an illustration of this two courtyards, in both of which the houses are dark and dismal, and probably unwholesome by reason of their darkness, are illustrated on the accompanying plate.

3. The standard of domestic accommodation which is provided in a few cases may be considered insufficient. Particularly is this the case in regard to water supply and sink accommodation.

Probably this is a matter which the general public have not sufficiently considered, because often when such cases were taken into Court surprise has been expressed by com-

Housing of the working classes (*continued*).

petent witnesses that it should be thought necessary to provide a sink and water supply in a town dwelling when the common tap in the courtyard and a neighbouring gully in the street were available. However reasonable this may be in the case of country cottages where the surroundings are clean, and the harmful influences of the town are not apparent, there appears to be no doubt that it should be made an absolute requirement of all such cottages that a water supply and proper sink should be provided. Indeed, the absence of these necessities undoubtedly conduces to dirtiness and carelessness. It is very desirable that public opinion should be educated on this point, and that subsequently power should be obtained to insist that every self-contained dwelling house—as a minimal requirement—should be provided with a water supply inside, and also that there should be means of getting rid of slop water.

The work of the Housing Committee involves the destruction of a certain number of small houses, either because they are obstructive buildings or because they are unfit or unprofitable to repair. This demolition is a necessary incident in all operations under the Housing of the Working Classes Act where self-contained cottages are being dealt with. In Birmingham, however, no lack of house accommodation is felt, because there has been a continuous exodus of the population from the central districts, in which housing operations are mainly carried on, to the surrounding healthy areas.

As has been pointed out in a previous report, there is an area of nearly 2,000 acres in the centre of Birmingham which has been during the last 15 years slowly depopulating, such decrease not being in any way due to the operations of the Housing Committee. A considerable number of cheap rented houses are always available in these central districts, mainly by reason of this exodus. From the point of view of the property owner this exodus has been extremely unprofitable. It is a matter, however, which is distinctly to be encouraged from the point of view of spreading the population over a large area, and an area where people can live in cleaner and better houses. This desire on the part of the working classes, who formerly lived in the centre of the town, to reside in better areas has been largely facilitated by the provision of good electric tramways.

Lease of Bordesley Green site to building society.

During the year under review a Local Government Board Inquiry was held into the question of leasing the land at Bordesley Green to the Ideal Benefit Society for building houses for the working classes. As this is probably the first instance of a Corporation acquiring land and leasing it to others for building purposes, the conditions as to the nature of the work to be carried out have a particular interest, and are briefly set out below :—

Plan of Proposed Method of Laying Out Land at Bordesley Green.

Area of Land Coloured BLUE about 17½ Acres.

Area of Land Coloured PINK about 10¾ Acres.

Lease of Bordesley Green site to building society (*continued*).

The land to be leased to the Soeiety for 109 years from Mareh 25th, 1908.

The rent to be—first year peppercorn, seeond year £200, third year and to end of term, £400 per annum.

The period of development to be 10 years from the eommeneement of the term.

The Soeiety to lay out an open spaee and eonstruet the roads at a eost of not less than £4,000, to spend at least £12,000 in buildings within three years from the date of the lease, and a further sum of not less than £28,000 within the ten years allowed for development.

Not more than 22 houses to be ereeted to the aere.

The site to be laid out to the approval of the Housing Committee, and the buildings to be suitable for the artizan class, details and plans to be approved by the Committee.

The Corporation to eontribute £4,000 as their proportion of the cost of laying out the open spaee, and earrying out the neeessary road-making and sewering.

The area to be laid out on garden suburb lines, and the houses to be ereeted in a substantial and satisfaetory manner, and at the lowest possible priee for the aeeommodation provided.

Every facility to be given to the tenants for gradually if not immediately aequiring the houses they live in.

Appended is a draft plan of the estate, showing how it is proposed to develop the land, part of whieh—eoloured blue—is leased from the Corporation, while the other portion was obtained from other owners. Certain modifieations have sinee been made in the plan with a view to improving the arrangement of the houses, but in the main the plan as shewn here will be adhered to.

The subjoined table shows the work done under the direction of the Housing Committee during the last five years :—

Date.	Represented.		Rendered Habitable.		Demolished.		Closing Orders.		Demolition Notices.	
	Houses.	Properties.	Houses.	Properties.	Houses.	Properties.	Houses.	Properties.	Houses.	Properties.
1903 ...	304	85	155	32	34	19	65	19	51	15
1904 ...	1119	143	242	37	127	33	233	31	36	6
1905 ...	793	98	330	38	230	43	327	41	61	7
1906 ...	596	87	370	49	117	26	199	25	143	13
1907 ...	806	120	262	41	422	64	679	102	157	24
Total ...	3618	533	1359	197	930	185	1503	218	448	65

As in former years, detailed lists are appended of the properties dealt with during the year :—

HOUSES REPRESENTED BY THE MEDICAL OFFICER OF HEALTH, 1907.

Houses represented as unfit for habitation.

Property.	No. of Houses.	Date.
7 Court, Essington Street	4	January
4 Court, Bow Street	6	,,
1, etc., Richard Street	9	,,
5 to 9 and 1 Court, Darwin Street	19	,,
1, 2, and 3 Courts, Devon Street	24	,,
6 Court, Duddeston Mill Road	3	,,
25 and 26 Bordesley Street	2	,,
37 Court, Watery Lane	5	February
38 Court, Watery Lane	5	,,
1 and 2 Courts, Garrison Lane	14	,,
3 Court, Garrison Lane	10	,,
3 Court, Bromsgrove Street	3	,,
1 Court, Pershore Street	3	,,
4 and 5 Adams Street	2	,,
11 to 16 Ludgate Hill	5	,,
31, etc., Lionel Street	4	,,
83 and 84 New John Street	2	,,
36 to 47, etc., Lower Dartmouth Street ...	15	,,
7 to 10 Lower Dartmouth Street	4	,,
30 Court, Lawley Street...	11	,,
5 Court, St. George's Street	5	,,
1 to 4 Little Edward Street	4	,,
Corner of King Edward's Road, Summer Hill, & Nelson Street	1	,,
4 and 5 Derby Street	2	March
313, 314, etc., Cheapside	4	,,
16 Court, High Street, Bordesley	12	,,
1, 2, and 3 Birchall Street	3	,,
99, etc., Heath Mill Lane	4	,,
30 to 34, etc., Key Hill Passage, Key Hill ...	8	,,
101 and 102 Hill Street	2	,,
7 Court, Sherborne Street	14	,,
1 Court, Coleman Street	4	,,
12, 13, and rear Coleman Street	12	,,
20 to 25 and rear Sherborne Street	8	April
Rear of 51 Bartholomew Street	4	,,
69 to 75 and rear Richard Street	13	,,
15 to 17 and rear Richard Street	5	,,
7 Court, Camden Grove	15	,,
5 and 6, rear of 72 Coleshill Street	2	May
1 to 4, rear 94 Coleshill Street	4	,,
Rear of 68 Coleshill Street	6	,,
105 to 108 Steelhouse Lane	4	,,
1 Court, Stafford Street	4	,,
Rear 17 Stafford Street	1	,,
Rear 18 Aston Street	1	,,
Rear 35 Vere Street	1	,,
51, 53 and rear Lawley Street	8	,,
2 Court, Woodcock Street	4	,,
6 Court, Shadwell Street	3	,,
7 Court, Woodcock Street	1	June
12, 13, and rear Floodgate Street	7	,,
1 to 5, rear 37 Tower Street	5	,,

HOUSES REPRESENTED—*continued.*

Property.	No. of Houses.	Date.	
27 Court, Tower Street	7	June	Houses represented as unfit for habitation (*continued*).
369 to 374 and rear Summer Lane	13	,,	
42, 43, and 8 Court, New John Street ...	6	,,	
14 Court, Moorsom Street	8	July	
206 to 212 Newtown Row	4	,,	
16 and rear Hatchett Street	4	,,	
Rear 68 Coleman Street	4	,,	
22 and rear Ormond Street	3	,,	
Rear 91 Morville Street	2	,,	
316 and rear Farm Street	16	,,	
161 to 164, etc., New John Street	7	,,	
65 Adams Street	1	,,	
26 Court, Cheapside	13	October	
27 Court, Cheapside	4	,,	
Rear of 126 Cheapside	2	,,	
129, 130, and 12 Court Darwin Street ...	11	,,	
4 to 12, etc., Bishopsgate Street	11	,,	
92, 93, and 9 Court, New Canal Street ...	10	,,	
14 Court, Cardigan Street	13	,,	
Hicks Square and Nova Scotia Street ...	2	,,	
11 Court, Vauxhall Road	9	,,	
10 Court, Willis Street	9	,,	
57 Court, Cromwell Street	9	,,	
Rear 13 Fox Street	3	,,	
6 Court, Bartholomew Row	4	,,	
13 Court, Darwin Street	20	,,	
7 Court, Communication Row	13	,,	
1 Court, Gosta Green	4	,,	
Springfield Terrace, Spring Street	9	,,	
104 to 112 and rear Tennant Street	12	,,	
8 to 12 and rear Spring Vale	10	,,	
40 to 43 and rear Coleman Street	15	,,	
36 to 42 and rear Cliveland Street	12	,,	
127, 129, 131 Bristol Street	3	,,	
24 to 29 Brewery Street	6	,,	
95, 96 and rear Talbot Street	16	November	
32, 33, and 9 Court, Inge Street	7	,,	
1 in 7 Court, Ward Street	1	,,	
276 to 290 Park Road	8	,,	
1 to 7 Wharf Street	7	,,	
4 Court, Lennox Street	3	,,	
23, 24 and 7 Court, St. George's Street ...	8	,,	
17 Aston Road	1	,,	
4 Court, Macdonald Street	4	,,	
9 Court, Adelaide Street	10	,,	
10 Court, Adelaide Street	7	,,	
Rear 5 Camp Hill	5	,,	
Rear 56 Moseley Road	13	,,	
Rear 64 Moseley Road	7	,,	
1 Court, Northumberland Street	8	,,	
Edward Place, Northumberland Street ...	9	,,	
46, etc., Northumberland Street	13	,,	
25 Court, Hospital Street	12	,,	
27 Court, Hospital Street	5	December.	
3 Court, St. Martin's Street	3	,,	
17 Court, Hospital Street	11	,,	
8 Court, Brearley Street	4	,,	
9 Court, Brearley Street	4	,,	

HOUSES REPRESENTED—*continued.*

	Property.	No. of Houses.	Date.
Houses represented as unfit for habitation (*continued*.	11 Court, Brearley Street	5	,,
	Rear 6 Steward Street	6	,,
	Rear 43 Steward Street	3	,,
	49, 50 and 51 Steward Street	3	,,
	14 Court, Steward Street	6	,,
	21 Court, Steward Street	7	,,
	22 Court, Steward Street	6	,,
	Back 19 Sherborne Street	1	..
	Elm Avenue, Runcorn Road	3	,,
	TOTAL	806	

HOUSES RENDERED HABITABLE, 1907.

	Property.	No. of Houses.	Date
Houses rendered habitable.	Back 59 Summer Hill Street	3	January
	6 Court, Fisher Street	4	,,
	54 Court, Bell Barn Road	8	,,
	2 and 3 Courts, Legge Street	10	February
	5, 6, and 7 Courts, Trent Street	16	,,
	Back 118 Bloomsbury Street	6	,,
	2 Court, Rushton Street	5	,,
	7 Court, Fazeley Street	7	,,
	9, etc., New Summer Street	7	,,
	14 Court, High Street, Bordesley	6	,,
	Back 63 Nelson Street	5	,,
	55 Court, Bell Barn Road	8	March
	15 Court, Brearley Street	8	,,
	Lincoln Place, Garrison Lane	4	,,
	8 and 9 Court, Ward Street	8	,,
	53 to 59 Moorsom Street	4	,,
	23, 24, etc., Rea Street South	4	April
	4 Court, Lower Tower Street	3	,,
	2 and 3 Courts, Legge Street	16	,,
	12 Court, Warwick Street	12	,,
	Emily Terrace, Emily Street	6	,,
	5 etc., New Summer Street	5	May
	1 and 2 Fawdry Street	2	,,
	33 to 38 Trent Street	4	June
	34 Court, Bell Barn Road	4	July
	1 Court, Brewery Street...	6	,,
	Prince Alfred's Place, Highgate Road ...	7	October
	3 Court, Summer Road	3	,,
	3 Court, Summer Hill Street	7	,,
	4 Court, Ward Street	6	,,
	16 Court, Price Street	2	,,
	Back 13 Richard Street	5	,,
	Rear 30 Allison Street	6	,,
	107 and rear Coventry Street	8	,,
	9 Court, Dartmouth Street	9	,,
	Rear 35 Ladywell Passage	1	,,
	3 Court, Devon Street	14	November.
	5 and 6 Courts, Cope Street	2	,,
	1 to 4 and rear Richard Street...	9	December.
	5 Court, Nova Scotia Street	2	,,
	5 Court, Warstone Lane...	10	,,
	TOTAL	262	

HOUSES DEMOLISHED, 1907.

Property.	No. of Houses.	Date.	
6 Court, Fisher Street	1	January	Houses demolished.
Lincoln Place, Garrison Lane	4	February	
44 and backs Fazeley Street	4	,,	
5 and 6 Courts, Trent Street	6	,,	
7 Court, Fazeley Street	1	,,	
3 Court, Rea Street South	7	,,	
Henns Walk	7	,,	
17 Court, Northwood Street	14	,,	
14 Court, High Street, Bordesley	1	,,	
Back 100 Digbeth	4	,,	
62, etc., Allison Street	4	,,	
37 Brearley Street	1	,,	
Back 47 Weaman Street	10	March	
5 Court, Canal Street	9	,,	
Rear 52 Warwick Street	1	,,	
Back 61 Princip Street	2	May	
Back 100 Digbeth	4	,,	
New Vale Court, Park Street	10	,,	
1 Court, Holland Street	4	June	
4 and 5 Ladywell Passage	2	,,	
16 Court, Dartmouth Street	2	,,	
3 Court, Lister Street	2	,,	
1 Court, Lister Street	6	,,	
6 Court, Bagot Street	11	,,	
91 Hospital Street	1	,,	
6 Court, Bow Street	6	,,	
3 and 4 Courts, Holland Street	18	July	
22, 24, and 26 Courts, Barford Street ...	24	,,	
11, 12, 13, and 14 Courts, Rea Street ...	11	,,	
3 and 4 Courts, Bartholomew Street	10	,,	
9 Court, Cheapside	9	,,	
99½ and rear Hill Street	7	,,	
Granville Place, Tennant Street	7	October	
Rear 35 Vere Street	1	,,	
Rear 32 Horse Fair	6	,,	
Bank Terrace, Bow Street	3	,,	
Rear 72 Coleshill Street	2	,,	
2 Court, Castle Street	4	,,	
Rear 109 and 110 Dale End	6	,,	
24 Court, Lancaster Street	15	,,	
20 Court, Lancaster Street	2	,,	
3 and 4 Courts, Bagot Street	21	,,	
Rear 128 Hospital Street	1	,,	
14 Court, Adams Street	3	,,	
32 and 33 Allison Street	2	,,	
11 Court, Coventry Street	5	,,	
5 Court, Warstone Lane	1	,,	
4 and 6 Adams Street	2	,,	
9 Court, Dartmouth Street	1	,,	
209, etc., Francis Street	24	,,	
7 to 10 Clyde Street	4	,,	
Steelhouse Lane	4	,,	
6 Court, Moland Street	8	,,	
4 Court, Bow Street	13	,,	
1 Court, Manchester Street	6	,,	
4 and 5 Courts, Blucher Street	21	,,	
17 and 18 Regent Row	2	,,	
5 Court, Nova Scotia Street	5	,,	

HOUSES DEMOLISHED—*continued.*

	Property.	No. of Houses.	Date.
Houses demolished (*continued*).	130, and 133 Livery Street	4	October
	21 Court, Weaman Street	7	,,
	2 and 3 Courts, Lawford Street	12	,,
	2 Court, St. James' Place	12	,,
	3 and 4 Courts, Vauxhall Road	12	,,
	1, 2, and 3 Birchall Street	3	,,
	TOTAL	422	

CLOSING ORDERS OBTAINED, 1907.

	Property.	No. of Houses.	Date.
Closing orders obtained.	4 Court, Glover Street	5	8/2/07
	22 Court, Hampton Street	3	18/1/07
	5 Court, Nova Scotia Street	7	18/1/07
	7 and 8 Courts, Curzon Street	6	1/3/07
	Back 109, 110 Dale End	8	22/3/07
	3 Court, Bartholomew Street	8	22/3/07
	21 Court, Weaman Street	6	22/2/07
	Back 42 Weaman Street	8	8/3/07
	Back 2 Berkeley Street	2	8/3/07
	1 Court, Pershore Street	3	8/3/07
	24 Court, Lancaster Street	4	8/3/07
	5, 6, 7, and 8 Courts, Price Street	22	8/3/07
	Back 65 Coleshill Street	9	8/3/07
	30 to 46 Don Street	9	22/3/07
	Back 40 and 41 Humpage Road	22	22/3/07
	130-133 Livery Street	4	22/3/07
	25 Court, Moseley Street	2	22/3/07
	24 Court, Lancaster Street	14	22/3/07
	7-10 Clyde Street	4	22/3/07
	19 Court, Lancaster Street	6	19/4/07
	27 Court, Lancaster Street	3	5/4/07
	23 Court, Lancaster Street	6	5/4/07
	6 Court, Newhall Street	11	5/4/07
	21 Court, Hospital Street	17	19/4/07
	16 Court, Milk Street	12	3/5/07
	86-96 Devonshire Street	6	
	90-104 Constitution Hill	12	26/4/07
	9, 11, 13 Arter Street	3	26/4/07
	Back 63 Sherbourne Road	5	26/4/07
	14 Court, Weaman Street	7	22/2/07
	31, 32, New Canal Street	2	26/4/07
	54, etc., Fazeley Street	4	26/4/07
	8 Court, Princip Street	13	26/4/07
	4 Court, Duke Street	12	3/5/07
	6 Court, Moland Street	8	3/5/07
	Corner Summer Hill Street and Nelson Street, and King Edward's Street	1	10/5/07
	5 Court, St. George's Street	5	17/5/07
	3 Court, Summer Road	3	17/5/07
	Back 15 St. George's Street	8	17/5/07
	4 Court, Bow Street	6	21/6/07
	39 to 71 Mill Street	17	24/5/07
	1 Court, Gt. Hampton Row	10	24/5/07
	14 Court, Hospital Street	4	24/5/07
	8 Court, Heneage Street	6	7/6/07

CLOSING ORDERS OBTAINED—*continued.*

Property.	No. of Houses.	Date.	
2 and 3 Courts, Allison Street	22	31/5/07	Closing orders obtained (*continued*).
7-10 Lower Dartmouth Street	4	7/6/07	
3 Court, Garrison Lane	9	7/6/07	
3 Court, Garrison Lane	1	7/6/07	
1 and 2 Courts, Garrison Lane	14	7/6/07	
37 Court, Watery Lane	5	7/6/07	
38 Court, Watery Lane	5	7/6/07	
86-96 Devonshire Street	6	14/6/07	
3 to 8, etc., Fawdry Street	8	28/6/07	
11 Court, New John Street	3	14/6/07	
4 William Street	1	21/6/07	
2 Court, William Street	6	21/6/07	
3 Court, William Street	3	21/6/07	
4 Court, William Street	7	21/6/07	
5 Court, William Street	5	21/6/07	
2 Court, St. Martin's Street	6	21/6/07	
6 Court, St. Martin's Street	7	21/6/07	
3 Court, Tennant Street...	2	21/6/07	
38, 39, and 43 Tennant Street	3	21/6/07	
23 and back Ivy Lane	4	28/6/07	
12 to 17 and 2 Court, St. James' Place ...	12	28/6/07	
32 to 37 and 3 Court, Lawford Street ...	12	28/6/07	
38 to 41 and 4 Court, Lawford Street ...	11	28/6/07	
5 Court, Blucher Street	8	5/7/07	
4 Court, Blucher Street	13	5/7/07	
2 back 97 Vauxhall Road	1	5/7/07	
7 Court, Vauxhall Road...	10	5/7/07	
4 and 6 Adams Street	2	19/7/07	
3 Court, Bromsgrove Street	3	19/7/07	
11 to 16 Ludgate Hill	6	19/7/07	
31 to 33 Lionel Street	3	19/7/07	
1 Court, Essington Street	5	19/7/07	
2 Court, Essington Street	3	19/7/07	
12 and rear Coleman Street	7	22/11/07	
13 and rear Coleman Street	7	22/11/07	
Rear 68 Coleshill Street	6	11/10/07	
Rear 18 Aston Street	1	11/10/07	
83 and 84 New John Street	2	11/10/07	
5 and 6 Fox Court, Buck Street	2	18/10/07	
Rear 94 Coleshill Street	4	18/10/07	
Rear 17 Stafford Street	1	29/11/07	
1 Court, Stafford Street	4	12/12/07	
7 Court, etc., Camden Grove	15	25/10/07	
8 to 11 and rear Park Lane	7	1/11/07	
4 Court, Fisher Street	8	1/11/07	
7 and rear Newton Street	5	1/11/07	
5 Court, Essington Street	13	1/11/07	
1 to 4 Little Edward Street	4	8/11/07	
35 and rear Benson Road	4	8/11/07	
Rear 2 Berkeley Street	9	22/11/07	
206, etc., Moorsom Street and Newtown Row	12	22/11/07	
Key Hill Passage, Key Hill	4	29/11/07	
1 and 2 Courts, Devon Street	10	6/12/07	
313, etc., Cheapside	4	13/12/07	
19 and 20 Regent Row	2	13/12/07	
6 Court, Price Street	2	13/12/07	
14 Court, Aston Road	7	20/12/07	
6 Court, Shadwell Street	3	20/12/07	
TOTAL	679		

DEMOLITION ORDERS SERVED, 1907.

Demolition orders.

Property.	No. of Houses.	Date.
15 Court, Navigation Street	5	January
4 and 5 Ladywell Passage	2	,,
4 Court, Canal Street	9	,,
1 Court, Moland Street	10	,,
10 Court, Tower Street	7	,,
Back 116 Tower Street	4	,,
17 and 18 Regent Row	2	,,
9 Court, Cheapside	9	May
Back 127, 139 Fazeley Street	2	,,
5 Court, Nova Scotia Street	7	June
Back 42 Weaman Street	9	,,
23 Court, Lancaster Street	6	July
4 Court, Duke Street	12	,,
7 to 10 Clyde Street	4	,,
Stanton's Buildings, Lower Loveday Street ...	7	,,
27 Court, Lancaster Street	3	,,
21 Court, Hospital Street	17	,,
6 Court, Moland Street	8	October
9, 11, and 13 Arter Street	3	,,
Rear 13 Sherborne Street	5	,,
1 Court, Pershore Street	3	,,
90 to 104, etc., Constitution Hill	12	,,
Rear 65 Coleshill Street	8	,,
230, 232, 234 Newtown Row	3	,,
TOTAL	157	

COMMON LODGING HOUSES.

Common Lodging Houses.

The ordinary periodic visits to common lodging houses were made during the year. There are 38 Common Lodging Houses on the register, having accommodation for 2,216 persons, that is, 216 more persons can be accommodated in the lodging houses this year than last. The Rowton House, where there are 800 beds, also supplies part of the accommodation for the class of people who inhabit common lodging houses.

Of the 2,216 beds 45 were for women only, and 24 for married couples.

Four new common lodging houses were registered during the year, having been in each case made to comply with the regulations laid down by your Committee some years ago.

The following statement shows the routine work done in connection with common lodging houses during the three years 1905 to 1907 :— Common Lodging Houses (*continued*).

	1905.	1906.	1907.
Visits paid by day	5,041	4,545	4,395
Visits paid by night	455	587	677
Windows not thrown open	56	6	8
Floors requiring cleansing	98	34	35
Bed clothes requiring cleansing	134	55	618
Bed clothes to be provided	138	115	612
Houses limewashed	90	83	84
Means of ventilation provided	175	16	19
Repairs to walls, floors, roofs, and windows	609	54	93
Sinks provided or repaired	18	4	5
Water closets provided	29	2	19
Water closets repaired	30	29	46
Ash tubs provided	15	9	6
Drains repaired	15	5	17
Yards paved	11	1	0

The whole of the work is undertaken by one inspector, who devotes all his time to the inspection, and is assisted occasionally by an additional inspector for night work.

HOUSES SUB-LET IN LODGINGS.

This is a group of houses occupied by poor class people, who pay as a general rule a rent varying from 3s. 6d. to 6s. 6d. per week for either a single room furnished as a living and sleeping room, or for two rooms, one of which is a living room and the other a sleeping room. Houses let in lodgings.

There were on our register 430 such houses at the end of 1907, as compared with 360 at the end of 1906. These houses have accommodation for 2,381 persons if they were fully occupied. During the year 3,220 visits were paid to them.

CANAL BOATS.

The following is a reprint of the annual report on the work done under the Canal Boats Acts and Regulations during the year 1907. The report is required to be sent annually to the Local Government Board within 3 weeks from the end of the year :— Canal Boats.

Canal boats (*continued*).

" REPORT OF INSPECTOR OF CANAL BOATS, 1907.

" Health Department,
" Council House,
" Birmingham,
" 13th January, 1908.

" To the Chairman and Members of
the Health Committee.

" Gentlemen,

" In compliance with Section 3 of the Canal Boats Act, 1884, I present to you the Annual Report of the work accomplished under the Canal Boats Acts, 1877 and 1884, and the Regulations of the Local Government Board made thereunder for the year ending 31st December, 1907.

" Inspector William Lee Wilson, whose office is in the Council House, continued to act as Inspector under the above Acts. His duties were still combined with certain duties connected with the attendance at school of canal boat children. He devotes all his time to the duties of the joint office, the remuneration for which is £109 4s. 0d. (one hundred and nine pounds four shillings) per annum, with uniform.

" 1047 boats, registered to carry 3.348 adults. were inspected during the year. The following table gives the corresponding numbers since 1904 :—

Year.	No. of Boats Inspected.	No. of Adults Boats are registered to carry.
1904	1182	4022
1905	925	2979
1906	1059	3507½
1907	1047	3348

" The actual numbers carried in the boats inspected during 1907 were :—1,639 men, 576 women, and 584 children, a total of 2,799 persons, equal to 2,507 adults.

" 982 boats out of the total number inspected, or 93·88 %, were found to be in compliance with the Acts and Regulations. But in regard to 65 boats contraventions existed and notices were duly served on the owners ; 53 of these notices referred to one contravention only ; 9 to two ; 2 to three ; and 1

Canal boats (*continued*).

to four contraventions. The total number of infringements found was therefore 81, and these may be classified as under :—

Infringement of the Acts and Regulations with respect to	Brought forward from 1906 to be dealt with.	No. found during 1907.	Notices complied with during 1907.	Carried forward to be dealt with in 1908.
Registration...	9	4	11	2
Notification of change of master	—	—	—	—
Certificates	1	18	17	2
Marking	—	15	13	2
Overcrowding	—	13	12	1
Separation of the sexes	—	6	6	—
Cleanliness	—	3	3	—
Ventilation	—	—	—	—
Painting	—	4	4	—
Provision of Water Cask	—	17	17	—
Removal of Bilge Water	—	—	—	—
Notification of Infectious Disease ...	—	—	—	—
Admittance of Inspector	—	—	—	—
Boat not in habitable condition	—	1	1	—
	10	81	84	7

"It was again found unnecessary to take any legal proceedings. The custom of sending letters to owners drawing attention to the requirements of notices unfulfilled, which has been carried on in former years, has been continued with very satisfactory results. In the large majority of cases compliance was readily made.

"No case of infectious disease occurred during the year.

"The number of boats on the register on 31st December, 1907, was 391, compared with 394 at end of 1906, 383 at end of 1905, and 379 at end of 1904. Seven boats were registered during the year, and the certificates of 10 boats were cancelled. Fresh registration on account of structural alterations was rendered necessary in the case of 1 boat which had been previously registered.

"Your obedient servant,

"GEORGE F. BUCHAN,

"Assistant Medical Officer of Health."

COWS AND COWSHEDS.

Cows and Cowsheds.

Mr. Malcolm, who has charge of the inspection of cows and cowsheds, informs me that at the end of the year 1907 there were 68 cowsheds in use in the City, registered to contain 616 cows.

During the year 781 visits were paid to these cowsheds, both the cows and the sheds being carefully examined at each visit. As a rule the cowsheds were found to be in a fairly good sanitary condition. It was necessary, however, to call the attention of the owners to the want of cleanliness, in several instances, though no official notice had to be served during the year.

A number of the cows were found to be suffering from mastitis, induration of the udder, and eruption on the teats, and they were removed for a time from the dairy stock. Three cases of tuberculosis of the udder were discovered, necessitating two of the cows being destroyed, and the other being removed from the dairy stock.

MILKSHOPS AND DAIRIES.

Milk Shops and Dairies.

The following return gives particulars of the visits to milkshops and dairies, and of the other routine work done by the milkshops inspector :—

	1905	1906	1907
Dairies on the register	15	14	13
Milkshops on the register	2327	2379	2461
Purveyors on the register	250	354	425
Dairies registered during the year ...	0	0	0
Milkshops registered	396	609	588
Purveyors registered	89	122	71
Dairy certificates cancelled	1	1	1
Milkshops ,, ,, ...	539	557	506
Purveyors ,, ,, ...	21	18	0
Visits to dairies	63	66	44
Visits to milk shops and milk stores ...	4327	4487	4137
Dirty vessels found at milk shops and milk stores	20	30	29
Shops, cellars, and pantries whitewashed	92	122	150
Lamp oil, fish, tripe and vinegar businesses prohibited	20	39	15
Dirty churns found at railway stations ...	1	0	2
Cases of infectious disease reported at milkshops	24	49	42

BAD MEAT, FISH, AND FRUIT.

Slaughter-houses.

The inspection of slaughter-houses and of the markets is carried out by the officers of the Markets and Fairs Committee. Last year they paid 9,460 visits to slaughter-houses, and in practically the whole of these visits they found them in a clean condition.

Bad Meat, Fish, and Fruit.

The amount of meat, etc., seized, with certain other information, is shown below :—

BAD MEAT.	1905	1906	1907
Voluntarily surrendered ...	3180 lots.	2947 lots.	3109 lots.
Seized by inspectors	15 lots.	30 lots.	18 lots.
Weight destroyed	303 tons.	376 tons.	290 tons.
Persons prosecuted	2	4	3
Penalties inflicted	£25	£36	£8
BAD FISH.			
Voluntarily surrendered ...	626 lots.	1228 lots.	1387 lots.
Seized	6 lots.	93 lots.	9 lots.
Weight destroyed	85 tons.	95 tons.	89 tons
Persons prosecuted	3	3	2
Penalties inflicted	£13	£1 10s. 0d.	£5
BAD FRUIT.			
Weight destroyed	19 tons.	20 tons.	15 tons.

FACTORIES AND WORKSHOPS.

Factories and Workshops.

In the following tables are set out some of the statistics in relation to work done by the Inspectors employed by the Corporation under the Factory and Workshop Act.

As will be generally understood, part of the inspection of factories and workshops is done by the inspectors employed by the Home Office, while the other part is done by the inspectors employed by the local authority. This dual control on such matters as the health of workpeople is unfortunate, both from the point of view of the employer and the employe.

The workshops in the Birmingham district are distinctly less carefully cleaned than they ought to be. It is probable that the lack of this cleansing and repairing and the lack of ventilation are the main causes of the high mortality among certain trades. In former reports attention has been drawn to the fact that at ages at which men and women are employed two men die for every one woman, and that this excess in the mortality among men is due largely to the condition of the workshops. What is wanted is that a much higher standard of cleanliness for workshops should be fixed. This would be followed by the requisite improvement in the ventilation of the shops and the better health of the workpeople. The fault is not entirely due to one section of the population ; it is a general acknowledgment of a low standard which prevents improvement being made. There is a very great contrast between the workshops in the Birmingham district and those in many foreign countries.

FACTORIES AND WORKSHOPS—RETURN FOR 1907.

Factories and Workshops (*continued*).

I.—INSPECTION.

PREMISES.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories...	1080	123	—
Workshops	8003	587	—
Work places	752	38	—
Total	9835	748	—
Revisits paid ...	4099	—	—

II.—DEFECTS FOUND.

PARTICULARS.	Number of Defects			No. of Prosecutions.
	Found.	Remedied.	Referred to H.M.I.	
Nuisances under the Public Health Acts :—				
Want of cleanliness	2142	2141	—	—
Want of ventilation	34	33	—	—
Overcrowding	3	3	—	—
Want of drainage of floors ...	14	14	—	—
Other nuisances	906	882	—	—
Sanitary accommodation — Insufficient	81	80	—	—
Sanitary accommodation — Unsuitable or defective	1805	1770	—	—
Sanitary accommodation — Not separate for sexes	54	50	—	—
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouse	—	—	—	—
Breach of sanitary requirements for bakehouses	—	—	—	—
Other offences	—	—	—	—
Total	5039	4973	—	—

III.—HOME WORK.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.						Addresses of Outworkers.		Prosecutions.		Inspection of Outworkers' Premises.	Outwork in unwholesome Premises, Section 108.	Outwork in Infected Premises. Sections 109, 110.
	Lists received from Employers.												
	Twice in the year.			Once in the year.									
	Lists.	Outworkers.		Lists.	Outworkers.		Received from other Councils.	Forwarded to other Councils.	Failing to keep or permit inspection of lists.	Failing to send lists.		Notices served.	Instances.
		Contractors.	Workmen.		Contractors.	Workmen.							
Wearing Apparel—													
(1) Making, etc.	285	769	1206	91	183	313	54	299	...	22	...	1	11
(2) Cleaning and Washing ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lace, Lace Curtains, and Nets ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Furniture and Upholstery ...	4	24	8	2	1	4	...	...	...	...	...	...	...
Carding, etc., of Buttons, etc. ...	...	...	...	18	6	1304	174	100	...	1	...	7	...
Paper Bags and Boxes ...	10	...	142	20	1	121	...	22	...	1	...	...	...
Basket Making	...	...	...	1	...	2	...	1	...	...	...	...	...
Brush Making	6	...	168	3	...	30	...	40	...	...	...	...	...
File Making	...	...	...	1	...	3	...	...	...	...	...	...	...
Electro-plate	6	21	23	8	29	31	...	4	...	...	...	...	...
Cables and Chains	...	...	...	...	...	...	...	...	...	...	...	...	...
Anchors and Grapnels	...	...	...	...	...	...	...	...	...	...	...	...	...
Cart Gear	...	...	...	...	...	...	...	...	...	...	...	...	...
Locks, Latches and Keys ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	311	814	1547	144	220	1808	228	466	...	24	1749	8	11

Factories and workshops (*continued*).

IV.—REGISTERED WORKSHOPS.

	Number.
Workshops on the Register (s. 131) at the end of the year	9825

V.—OTHER MATTERS.

		Number.
Matters notified to H.M. Inspector of Factories—		
Failure to affix Abstract of the Factory and Workshop Act		33
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act	Notified by H.M. Inspector	135
	Reports (of action taken) sent to H.M.I.	91
Other		—
Underground Bakehouses—		
Certificates granted during the year		—
In use at the end of the year		13

BLACK SMOKE.

Smoke nuisances.

The following observations show the work done in attempting to reduce the amount of black smoke in Birmingham during 1907. No new departure was introduced during the year. In the abatement of black smoke there is much room for improvement in regard to that issuing from boiler chimneys. There ought to be no excuse whatever for more than the merest puffs of black smoke from chimneys where boilers only are used, but on the other hand there may be a little more difficulty in reducing the black smoke from metallurgical furnaces.

The cases dealt with in Birmingham during each year since 1898 have been as follows :—

	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
No. of observations ...	6431	14100	9358	15808	13445	16705	13186	10034	8229	7934
Average number of minutes of black smoke per observation ...	3·42	1·36	1·95	1·34	1·26	1·27	1·39	1·95	2·27	2·29

The next table shows the number of cases dealt with by the Health Committee during each of the last ten years :

	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
Total Cases dealt with..	152	117	125	116	139	151	231	250	251	275
Cautionary letters sent.	99	81	89	80	89	71	117	128	116	119
Police Court proceedings	53	35	35	35	50	80	98	109	115	116
Total amount of fines ..	£40/2/0	£19/10/0	£24/10/0	£15/2/6	£33 15/0	£49/7/6	£77/10/0	£69/10/0	£82/15/0	£89/0/0
Total amount of costs	£21/10/0	£14 0/0	£14/6 0	£14/4/0	£19/8/6	£36/15/6	£37/17/6	£41/0/0	£41/19/6	£41/0/8
Average fine	15/1	11/2	14/0	8/7	13/6	13/2	15/10	16/2	17/1	18/11

APPENDIX.

TABLE I.—VITAL STATISTICS OF WHOLE DISTRICT DURING 1907 AND PREVIOUS YEARS.

Year.	Population estimated to middle of each year.	Births.		Deaths Under 1 year of Age.		Total Deaths Registered at all Ages.		Total Deaths in Public Institutions in the District.	Deaths of Non-residents registered in the District.	Deaths of Residents registered beyond the District.	Nett Deaths at all Ages belonging to the District.	
		Number.	Rate.*	Number.	Rate per 1,000 Births registered.	Number.	Rate.*				Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
1897	505,772	16,771	33·2	3,594	214	10,668	21·1	1,489	...	...	...	...
1898	510,343	17,289	34·0	3,287	190	9,936	19·5	1,518	...	...	...	...
1899	514,956	17,609	34·3	3,398	193	10,446	20·3	1,614	247	325	10,524	20·5
1900	519,610	16,941	32·7	3,366	199	10,756	20·8	1,911	267	393	10,882	21·0
1901	523,284	16,735	32·1	3,150	188	10,357	19·8	1,802	302	347	10,402	19·9
1902	528,181	†17,103	31·9	†2,681	157	†9,577	17·8	†2,082	†312	†407	†9,672	18·0
1903	533,039	16,866	31·7	2,668	158	9,056	17·0	1,916	321	388	9,123	17·2
1904	537,965	16,902	31·5	3,302	195	10,235	19·1	2,008	332	437	10,340	19·3
1905	542,959	15,795	29·2	2,451	155	8,588	15·9	1,838	362	492	8,718	16·1
1906	548,022	16,016	29·3	2,686	168	9,067	16·6	1,923	380	485	9,172	16·8
Averages for years 1897–1906	526,413	16,803	32·0	3,058	182	9,869	18·8	1,810	...	...	...	...
1907	553,155	15,619	28·3	2,300	147	8,744	15·8	2,054	397	532	8,879	16·1

* Rates in columns 4, 8, and 13 calculated per 1,000 of estimated population. † 53 weeks.

Area of District in acres, 12,639.

Total population at all ages at Census of 1901 522,204.
Number of inhabited houses ,, ,, 107,831.
Average number of persons per house at Census of 1901, 4·8.

TABLE II.—VITAL STATISTICS OF SEPARATE LOCALITIES IN 1907 AND PREVIOUS YEARS.

Year.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000
Wards	Rotton Park.			All Saints'.			Ladywood.			St. Paul's.			St. George's.			St. Stephen's.		
1899	41,673	758	18·2	40,009	705	17·6	25,140	496	19·8	17,118	376	22·0	20,641	490	23·8	23,533	624	26·6
1900	43,339	773	17·8	42,251	828	19·6	25,177	484	19·2	17,025	346	20·4	20,473	539	26·3	23,385	615	26·3
1901	46,835	752	16·1	41,444	725	17·5	25,089	502	20·0	14,954	338	22·6	20,230	469	23·2	23,765	633	26·6
1902	46,088	677	14·4	41,834	659	15·5	25,128	444	17·3	15,552	289	18·2	20,434	449	21·6	23,720	640	26·5
1903	46,887	650	13·9	42,101	662	15·7	25,253	448	17·8	15,561	299	19·2	20,412	425	20·8	23,768	499	21·0
1904	47,658	821	17·2	43,033	769	17·9	25,284	509	20·1	15,669	336	21·5	20,425	439	21·5	23,615	582	24·7
1905	48,530	680	14·0	42,232	618	14·6	24,842	413	16·6	15,543	244	15·7	20,350	383	18·8	23,284	465	20·0
1906	49,393	668	13·5	42,513	726	17·1	24,704	419	17·0	15,088	280	18·6	20,451	405	19·8	23,035	540	23·4
1907	50,788	676	13·3	43,959	618	14·1	24,815	390	15·7	14,483	247	17·1	20,080	388	19·3	23,275	494	21·2
Wards	St. Mary's.			St. Bartholomew's			Market Hall.			St. Thomas'.			St. Martin's.			Edgbaston and Harborne.		
1899	15,536	476	30·7	26,947	732	27·2	11,030	207	18·8	18,682	428	22·9	23,941	503	21·0	30,313	418	13·8
1900	15,570	475	30·4	27,003	749	27·7	10,858	234	21·5	19,057	399	20·9	24,143	527	21·9	30,718	441	14·4
1901	15,904	472	29·7	26,857	696	25·9	9,807	171	17·4	19,215	402	20·9	23,950	485	20·3	30,795	402	13·1
1902	15,993	405	24·8	26,876	678	24·6	9,570	165	16·9	18,586	381	20·1	24,097	499	20·3	31,200	390	12·3
1903	16,248	375	23·1	26,572	647	24·4	9,483	154	16·3	18,559	347	18·7	24,019	404	16·8	31,311	380	12·1
1904	15,859	382	24·1	25,801	741	28·7	9,163	162	17·7	18,764	338	18·0	24,469	461	18·8	31,287	399	12·7
1905	15,551	325	20·9	24,762	571	23·1	9,049	154	17·0	18,563	315	17·0	24,662	395	16·0	31,002	345	11·1
1906	13,891	316	22·8	24,666	570	23·1	9,451	152	16·1	18,088	376	20·8	23,928	422	17·6	32,781	382	11·7
1907	13,386	287	21·4	23,043	543	23·6	8,930	153	17·1	17,361	317	18·3	24,116	396	16·4	33,215	394	11·9
Wards	Deritend.			Bordesley.			Duddeston.			Nechells.			Balsall Heath.			Saltley.		
1899	25,346	618	24·4	52,206	807	15·5	24,038	512	21·3	33,773	761	22·5	38,120	666	17·5	36,717	672	18·3
1900	24,771	645	26·0	53,770	851	15·8	24,274	569	23·4	33,701	739	21·9	38,579	619	16·0	40,829	681	16·7
1901	24,704	550	22.3	54,686	843	15·4	23,921	555	23·2	33,624	760	22·6	38,827	582	15·0	42,250	741	17·6
1902	24,516	507	20·3	55,606	761	13·4	23,773	517	21·3	33,384	636	18·7	39,025	589	14·8	44,185	679	15·1
1903	24,077	517	21·5	56,825	758	13·3	23,541	463	19·7	33,710	570	16·9	39,359	531	13·5	45,427	714	15·7
1904	24,157	532	22·0	55,596	843	15·2	23,451	538	22·9	33,346	765	22·9	40,140	595	14·8	46,761	784	16·8
1905	23,723	489	20·6	58,464	782	13·4	23,395	469	20·1	32,827	588	17·9	40,412	517	12·8	47,318	641	13·5
1906	23,770	537	22·6	59,818	800	13·4	22,926	428	18·7	33,696	672	19·9	40,956	505	12·3	50,796	683	13·4
1907	23,180	493	21·3	61,032	791	12·9	23,049	478	20·7	32,314	662	20·5	40,269	548	13·6	53,524	694	13·0

Note.—The inmates of large Institutions are not included in the Ward populations, and the deaths amongst them have been referred, as far as possible, to the Wards in which the deceased persons had previously resided.

TABLE III.

Cases of Infectious Disease Notified during the Year, 1907.

Classified according to ages, wards, and institutions.

DISEASE.	AGES.													WARDS.																		Institutions.	City.
	Under 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 to 75.	75 to 85.	85 and up.	Rotton Park.	All Saints'.	Ladywood.	St. Paul's.	St. George's.	St. Stephen's.	St. Mary's.	St. Bartholomew's.	Market Hall.	St. Thomas'.	St. Martin's.	Edgbaston and Harborne.	Deritend.	Bordesley.	Duddeston.	Nechells.	Balsall Heath.	Saltley.		
Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...	..	..	...	...	...	...	..	...	...	...	...	...	...	...	...
Scarlet Fever ...	26	742	1092	385	98	76	85	16	2	...	...	...	...	201	162	70	54	90	141	58	123	41	76	162	162	79	248	140	198	171	254	92	2522
Diphtheria... ...	13	254	297	123	86	65	95	35	9	6	2	1	...	88	103	52	23	63	58	30	42	10	35	56	42	28	85	63	49	60	64	35	986
Membranous Croup	3	13	10	...	...	...	...	...	..	...	...	...	...	2	...	1	...	1	1	...	5	1	...	3	...	3	1	...	3	2	3	...	26
Typhus Fever ...	...	...	...	...	.	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...
Typhoid Fever ...	...	15	38	31	29	22	62	29	16	3	3	...	...	16	21	11	5	21	23	10	16	1	6	11	5	14	20	7	19	18	17	7	248
Continued Fever ...	...	...	...	...	...	...	...	...	...	...	...			...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...
Relapsing Fever ..	...	...	...	...	...	...	.	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	..
Puerperal Fever ..	...	...	...	...	1	12	28	5	1	...	...	...	...	8	2	1	1	1	2	1	2	2	2	1	2	2	2	4	4	...	9	1	47
Cholera	...	.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	36	28	20	23	36	30	79	122	90	71	41	18	5	35	46	30	16	18	43	16	39	9	13	26	23	17	47	28	60	33	74	26	599
Totals ...	78	1052	1457	562	250	205	349	207	118	80	46	19	5	350	334	165	99	194	268	115	227	64	132	259	234	143	403	242	333	284	421	161	4428

TABLE IV.

Deaths Registered in or Belonging to the City of Birmingham during the Year ending December 28th, 1907.

DISEASES.	AGES.												All Ages.		
	0—	1—	5—	10—	15—	20—	25—	35—	45—	55—	65—	75—	85—	Males.	Females.	Persons.
Smallpox —																
(*a*) Vaccinated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*b*) Unvaccinated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*c*) No Statement	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	81	224	17	..	..	..	1	..	..	..	..	..	..	154	169	323
Scarlet Fever	1	66	25	2	..	..	2	..	..	..	..	..	..	50	46	96
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Epidemic Influenza	3	3	1	1	..	2	4	10	13	13	17	12	2	38	43	81
Whooping Cough	63	115	10	..	..	..	..	..	..	..	..	..	..	82	106	188
Diphtheria, Membranous Croup	7	63	25	3	1	..	..	..	1	..	..	..	..	52	48	100
Enteric Fever	..	2	2	4	5	7	12	10	4	2	..	..	..	30	18	48
Asiatic Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa, Dysentery	120	23	1	..	..	..	1	1	..	2	5	4	1	96	62	158
Epidemic Enteritis	68	11	..	..	..	..	..	..	..	..	..	..	..	45	34	79
Epid. Cerebro Spinal Meningitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Varicella	3	2	..	..	..	..	..	..	..	..	..	..	..	2	3	5
Epidemic Rose-rash	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mumps	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydrophobia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glanders, Farcy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tetanus	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Anthrax, Splenic Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cowpox, Acc. of Vaccination	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Syphilis	25	5	..	..	..	..	1	..	1	..	..	..	..	19	13	32
Gonorrhœa	..	..	..	..	..	..	..	..	2	..	2	..	..	3	1	4
Phagedæna	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Erysipelas	5	1	..	..	..	..	1	3	2	2	3	1	..	11	7	18
Puerperal Fever	..	..	..	..	2	6	16	5	..	..	..	..	..	..	29	29
Pyæmia, Septicæmia	8	6	..	1	..	1	3	..	1	..	1	..	..	12	9	21
Infective Endocarditis	..	..	..	..	3	2	1	3	..	..	..	..	..	7	2	9
Cancrum Oris	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Stomatitis	1	1	..	..	..	..	..	..	..	..	1	..	..	1	2	3
Carbuncle	..	..	..	..	..	..	..	..	..	2	1	1	..	4	..	4
Cellulitis	2	1	..	..	..	..	..	2	1	1	..	2	..	4	5	9
Malarial Fever	..	..	..	..	..	..	..	..	..	2	..	..	..	2	..	2
Rheumatic Fever	..	..	3	4	5	1	3	3	2	1	2	..	..	9	15	24
Rheumatism of Heart	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis of Brain	23	39	8	2	..	..	..	1	..	..	..	..	..	35	38	73
Tuberculosis of Larynx	..	..	..	..	..	..	1	5	2	..	..	..	..	5	3	8
Phthisis	2	6	10	4	38	55	170	178	112	76	22	2	..	447	228	675
Abdominal Tuberculosis	32	22	6	2	4	3	3	1	2	1	1	..	..	41	36	77
General Tuberculosis	11	18	4	2	1	3	9	11	5	3	1	..	..	40	28	68
Other forms of Tuberculosis	2	1	3	3	1	1	4	3	1	1	..	..	1	12	9	21
Thrush	5	..	..	..	..	..	..	..	..	..	..	..	..	2	3	5
Actinomycosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydatid Diseases	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1
Scurvy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ptomaine Poisoning	..	..	..	1	..	..	..	1	..	..	..	..	..	1	1	2
Acute Alcoholism	..	..	..	..	..	1	1	1	1	2	1	..	..	5	2	7
Chronic Alcoholism	..	..	..	..	..	..	..	4	3	4	2	..	..	6	7	13
Lead Poisoning	..	..	..	..	..	..	2	..	1	..	..	..	..	2	1	3
Osteo-arthritis Rheumatoid-arthritis	..	..	..	..	1	1	..	1	6	9	5	3	1	9	18	27
Gout	..	..	..	..	..	..	..	1	1	4	2	1	..	7	2	9
Cancer	1	1	1	..	3	3	8	49	103	117	96	34	3	168	251	419
Diabetes Mellitus	..	2	..	..	2	3	6	3	8	11	8	1	1	21	24	45
Purpura Hæmorrhagica	..	..	..	1	..	..	1	..	..	2	..	..	..	2	2	4
Hæmophilia	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Anæmia, Leucocythæmia	1	1	1	..	2	1	2	6	4	6	..	1	..	12	13	25
Lymphadenoma, Hodgkin's Dis.	..	..	..	..	1	..	2	1	..	2	..	..	..	4	2	6
Premature Birth	318	1	..	..	..	..	..	..	..	..	..	..	..	175	144	319
Injury at Birth	9	..	..	..	..	..	..	..	..	..	..	..	..	5	4	9
Debility at Birth	223	1	..	..	..	..	..	..	..	..	..	..	..	140	84	224
Atelectasis	18	..	..	..	..	..	..	..	..	..	..	..	..	12	6	18

TABLE IV.—*continued.*

Deaths Registered in or Belonging to the City of Birmingham during the Year ending December 28th, 1907.

DISEASES.	AGES.													All Ages.		
	0—	1—	5—	10—	15—	20—	25—	35—	45—	55—	65—	75—	85—	Males.	Females.	Persons.
Congenital Defects	56	4	1	..	1	..	..	..	..	..	..	..	..	30	32	62
Want of Breast Milk	28	..	..	..	..	..	..	..	..	..	..	..	..	11	17	28
Atrophy, Debility, Marasmus	235	30	1	..	..	..	..	..	..	..	..	..	..	134	132	266
Dentition	17	17	..	..	..	..	..	..	..	..	..	..	..	17	17	34
Rickets	17	10		.	..	..	..	..	..	..	..	..	..	15	12	27
Old Age, Senile Decay	..	..	..	..	..	..	..	..	..	13	126	195	73	156	251	407
Convulsions	120	23	1	..	..	..	..	2	..	..	..	..	..	87	59	146
Meningitis	42	37	10	6	1	3	6	5	10	1	2	..	..	68	55	123
Encephalitis	1	2	..	3	..	1	..	1	2	1	..	..	..	7	4	11
Apoplexy	..	..	..	..	..	2	3	6	14	23	19	4	..	36	35	71
Softening of Brain	..	..	..	..	..	..	..	2	6	5	14	6	3	17	19	36
Hemiplegia	..	..	..	..	..	..	..	..	3	13	16	8	4	24	20	44
General Paralysis of Insane	..	..	..	..	..	1	5	16	5	5	2	..	..	27	7	34
Other forms of Insanity	..	..	..	..	..	..	..	..	..	4	14	4	1	15	8	23
Chorea	..	..	1	1	..	1	..	..	..	..	..	..	..	1	2	3
Cerebral Tumour	..	1	1	2	3	1	4	1	4	5	..	..	..	11	11	22
Epilepsy	..	..	3	1	2	1	7	7	12	6	4	1	..	22	22	44
Laryngismus Stridulus	3	1	3	..	..	..	..	..	..	..	..	..	..	3	4	7
Locomotor Ataxy	..		..	..	..	..	..	..	2	3	..	..	..	3	2	5
Paraplegia, Diseases of Cord	..	2	1	..	3	..	1	3	2	12	11	2	..	20	17	37
Cerebral Congestion	2	..	..	..	..	1	..	..	1	..	1	..	..	3	2	5
Cerebral Effusion	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..
Cerebro-Spinal Meningitis	4	1	1	..	..	..	..	..	..	..	..	..	..	4	2	6
Neuritis	..	..	..	..	..	1	..	4	3	2	1	..	..	2	9	11
Other Diseases of Brain or Nerves	..	..	..	1	..	..	1	3	1	5	3	..	..	9	5	14
Otitis, Mastoid Disease	6	1	2	3	1	..	2	1	1	..	..	.	..	8	9	17
Disease of Nose, Epistaxis	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Diseases of Eye	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..
Pericarditis	..	1	..	2	1	..	..	3	..	..	..	..	..	6	1	7
Endocarditis, Valvular Disease	..	..	6	8	9	8	20	30	23	31	20	12	1	85	83	168
Hypertrophy of Heart	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Angina Pectoris	..	..	..	..	1	..	..	..	2	3	3	2	..	7	4	11
Aneurism	..	..	..	..	1	..	1	2	1	1	..	..	..	5	1	6
Senile Gangrene	..	..	..	..	..	..	..	..	..	4	6	4		9	5	14
Embolism, Thrombosis	..	1	..	..	..	..	4	4	9	12	13	14	..	22	35	57
Phlebitis	..	..	..	..	..	..	..	1	..	1	..	1	..	1	2	3
Varicose Veins	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cardiac Dilatation	..	..	..	..	..	..	..	3	1	8	5	7	4	6	22	28
Heart Disease (not defined)	5	2	4	12	10	9	18	49	90	98	103	43	2	216	229	445
Other Diseases of Heart	..	..	..	..	..	..	..	1	6	10	11	4	..	18	14	32
Atheroma	..	..	..	..	..	..	..	..	1	1	2	4	1	7	2	9
Arterio-sclerosis	..	..	..	..	..	..	..	..	3	10	8	6	..	20	7	27
Cerebral Haemorrhage	..	..	1	..	..	1	2	12	38	66	67	38	6	105	126	231
Other Diseases of Blood Vessels	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Laryngitis	..	8	1	..	..	..	1	..	..	..	1	..	..	7	4	11
Croup	1	1	..	..	..	..	..	..	..	..	..	..	..	1	1	2
Acute Bronchitis	181	65	2	..	1	1	1	3	9	19	19	13	4	164	154	318
Chronic Bronchitis	7	3	..	4	..	..	14	27	81	152	184	111	20	294	309	603
Lobar Pneumonia	15	23	3	2	5	3	22	25	10	20	13	6	1	87	61	148
Lobular Pneumonia	193	193	11	1	..	..	1	3	12	13	11	1	2	232	209	441
Pneumonia (not defined)	45	73	13	2	3	5	17	20	35	21	17	12	5	157	121	278
Emphysema, Asthma	..	1	..	..	1	..	..	2	..	10	7	4	..	12	13	25
Pleurisy	..	4	1	..	1	1	..	2	3	5	5	1	..	16	7	23
Fibroid Phthisis	..	..	..	..	..	..	1	2	1	1	3	..	..	5	3	8
Bronchiectasis	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
Other Dis. Respiratory System	..	..	..	..	..	..	..	1	1	..	..	..	..	2	..	2
Quinsy	..	1	..	..	..	..	1	..	1	..	..	..	..	2	1	3
Diseases of Pharynx	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Diseases of Œsophagus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ulcer of Stomach and Duodenum	..	..	1	..	1	3	4	8	6	5	..	1	..	15	14	29
Other Diseases of Stomach	46	4	1	1	1	1	..	8	7	5	4	4	..	36	46	82
Enteritis	116	22	2	..	..	1	4	4	5	3	5	6	..	84	84	168
Appendicitis	..	1	5	4	7	1	1	3	..	2	..	..	..	16	8	24
Obstruction of Intestine	11	3	1	..	2	3	4	5	9	9	8	6	..	32	29	61
Other Diseases of Intestine	1	..	..	..	..	..	..	..	1	..	..	..	..	1	1	2
Cirrhosis of Liver		..		..	..	..	..	19	30	14	10	1	..	32	42	74
Other Diseases of Liver	..	..	..	..	..	..	2	1	5	7	3	4	1	10	13	23
Peritonitis	1	3	2	1	2	3	6	3	3	2	..	..	..	14	12	26
Other Dis. of Digestive System	1	1	..	..	..	..	1	..	2	1	2	..	..	7	1	8

TABLE IV.—*continued.*

Deaths Registered in or Belonging to the City of Birmingham during the Year ending December 28th, 1907.

DISEASES.	AGES.												All Ages.		
	0—	1—	5—	10—	15—	20	25—	35—	45—	55—	65—	75—	85—	Males.	Females.	Persons.
Diseases, Lymphatic System and Ductless Glands	..	..	..	..	..	1	2	2	..	2	1	..	..	2	6	8
Acute Nephritis	4	5	2	..	..	6	5	11	19	11	10	5	..	40	38	78
Bright's Disease	..	..	1	1	3	1	4	24	38	39	23	6	1	79	62	141
Calculus	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1
Diseases of Bladder and Prostate	..	..	..	..	..	..	..	1	4	4	16	13	2	34	6	40
Other Diseases, Urinary System	..	..	1	..	..	..	..	2	..	3	1	..	..	5	2	7
Diseases of Testis and Penis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diseases of Ovaries	..	..	..	..	..	..	..	2	..	..	..	..	..	..	2	2
Diseases of Uterus and Appendages	..	..	..		..	1	4	1	..	..	2	1	..	..	9	9
Diseases of Vagina and External Genitals	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diseases of Breast	..	..		..	..	..	1	..	..	..	..	..	..	..	1	1
Abortion, Miscarriage	..	..	..	..	..	..	..	2	..	..	..	..	..	..	2	2
Puerperal Mania	..	..	..	..	..	1	1	..	..	..	..	..	..	..	2	2
Puerperal Convulsions	..	..	..	..	..	1	1	2	..	..	..	..	..	..	4	4
Placenta Prævia, Flooding	..	..	..	..	..	1	6	2	..	..	..	..	..	..	9	9
Puerperal Thrombosis	..	..	..	..	..	1	1	..	..	..	..	..	..	..	2	2
"Parturition"	..	..	..	..	1	..	1	..	..	..	..	..	..	..	2	2
Other Diseases, Pregnancy and Childbirth	..	..	..	..	..	..	5	1	..	..	..	..	..	..	6	6
Arthritis, Ostitis, Periostitis	2	1	2	3	1	..	..	2	2	..	1	..	..	8	6	14
Other Diseases, Osseous System	..	..	..	1	1	..	..	..	1	..	..	..	..	1	2	3
Ulcer, Bedsore	..	1	..	..	..	..	..	1	1	3	..	1	..	1	6	7
Eczema	3	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3
Pemphigus	2	..	..	..	..	..	..	..	..	..	..	1	..	..	3	3
Other Diseases, Integumentary System	1	..	..	..	..	..	..	..	..	..	1	1	..	2	1	3
By Accidents or Negligence:																
In Mines and Quarries	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
In Vehicular Traffic	..	1	5	1	..	1	3	7	3	3	2	2	..	26	2	28
On Railways	..	..	..	..	1	1	1	..	2	1	..	..	..	5	1	6
On Ships, Boats, &c.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
In Building Operations	..	..	..	..	..	..	..	..	1	..	2	..	..	3	..	3
By Machinery	..	..	..	..	1	2	..	..	..	..	..	..	..	3	..	3
By Weapons and Implements	..	..	..	..	..	..	1	..	..	1	..	..	..	2	..	2
Burns and Scalds	9	29	7	6	..	1	2	1	3	3	3	3	..	31	36	67
Poisons, Poisonous Vapours	..	1	..	1	..	..	2	1	2	..	1	1	..	5	4	9
Surgical Narcosis	1	..	..	..	..	..	..	1	..	..	..	..	..	2	..	2
Effects of Electric Shock	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Corrosion by Chemicals	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Drowning	..	..	7	3	2	2	1	2	3	1	3	..	..	16	8	24
Suffocation, Overlaid in Bed	73	..	..	..	..	..	..	..	..	..	..	..	..	46	27	73
,, Otherwise	5	..	1	..	..	..	..	2	..	..	..	..	..	6	2	8
Falls not specified	..	..	3	..	..	..	2	7	8	11	4	6	4	16	29	45
Weather Agencies	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Otherwise, not stated	6	1	..	1	..	..	..	1	1	1	..	..	..	7	4	11
Homicide	1	..	..	..	..	1	..	1	..	2	..	..	..	2	3	5
Suicides:																
By Poison	..	..	..	..	..	..	3	1	2	..	1	..	..	4	3	7
By Asphyxia	..	..	..	..	..	..	1	..	1	1	..	..	..	3	..	3
By Hanging and Strangulation	..	..	..	..	..	..	..	5	4	..	2	..	..	8	3	11
By Drowning	..	..	..	..	..	1	.	3	2	1	2	..	..	6	3	9
By Shooting	..	..	..	..	..	..	..	1	1	..	1	..	..	3	..	3
By Cut or Stab	..	..	..	..	..	..	4	1	4	3	2	..	..	12	2	14
By Precipitation from Elevated Places	..	..	..	..	..	..	..	2	..	..	..	..	..	1	1	2
By Crushing	..	..	..	..	..	..	..	.	..	..	..	..	..	.	..	..
By other and Unspecified Methods	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Execution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sudden Death, cause not ascertained	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ill-defined & Unspecified Causes	4	1	..	..	..	..	2	2	4	2	3	..	..	9	9	18
Totals	2300	1197	225	101	136	165	462	696	843	988	995	627	144	4629	4250	8879

TABLE V.

Births and Deaths Registered in, or Belonging to, each Ward during the Year ending December 28th, 1907.

CAUSES OF DEATH	WARDS.																			
	Rotton Park.	All Saints'.	Ladywood.	St. Paul's.	St. George's.	St. Stephen's.	St. Mary's.	St. Bartholomew's.	Market Hall.	St. Thomas'.	St. Martin's.	Edgbaston & Harborne.	Deritend.	Bordesley.	Duddeston.	Nechells.	Balsall Heath	Saltley.	Not located.	City.
Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	29	30	13	10	10	17	5	23	4	12	4	8	5	32	20	40	14	40	7	323
Scarlet Fever	6	7	2	3	7	8	1	6	1	4	5	4	1	9	12	8	3	9	..	96
Typhus Fever	..	..	..	..	..	.	..	..	..	..	..	..	.	..	..	..	..	..	..	..
Epidemic Influenza	12	5	1	3	3	2	..	1	2	2	1	10	1	7	2	3	5	10	11	81
Whooping Cough	10	7	9	2	4	11	3	20	2	7	9	3	13	26	8	20	13	20	1	188
Diphtheria, Memb. Croup	5	9	5	2	7	3	5	3	3	6	6	2	7	10	3	4	8	12	..	100
Croup	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	2
Enteric Fever	3	5	1	1	4	4	4	2	.	4	2	..	5	1	1	4	4	3	..	48
Asiatic Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa, Dysentery	8	7	12	4	16	10	2	16	1	7	3	4	14	9	13	14	6	10	2	158
Epidem. or Zymotic Enteritis	4	1	6	..	7	18	3	6	..	3	2	4	..	4	4	14	..	3	..	79
Enteritis	6	12	4	6	13	23	6	10	1	7	8	1	4	15	7	13	13	11	8	168
Other Continued Fevers	1	1	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	5
Erysipelas	2	..	1	..	1	1	..	2	1	..	..	1	2	1	1	1	1	3	..	18
Puerperal Fever	2	6	..	1	..	2	1	1	1	1	..	..	..	1	3	7	..	3	..	29
Other Septic Diseases	5	5	4	..	2	..	2	..	1	2	1	6	2	1	3	5	4	4	1	48
Intermittent Fever and Malarial Cachexia	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	2
Tuberculosis of Meninges	5	8	2	1	5	1	2	5	..	3	5	1	..	12	8	2	7	6	..	73
Tuberculosis of Lungs	40	49	39	26	40	47	34	40	16	23	33	21	41	60	36	49	37	26	18	675
Abdominal Tuberculosis	6	6	2	1	2	3	6	10	..	..	..	1	4	12	4	9	2	8	1	77
Other forms of Tuberculosis	5	7	1	5	5	6	3	6	5	4	..	1	3	14	3	8	6	8	7	97
Alcoholism	1	..	1	..	..	1	2	2	1	1	2	2	1	2	1	2	1	..	..	20
Cancer	37	28	25	16	11	12	6	24	6	14	19	29	24	48	17	23	36	31	13	419
Premature Birth	31	24	16	6	14	17	5	14	7	10	13	7	27	28	17	31	19	27	6	319
Congenital Defects	33	20	10	8	11	16	12	21	5	6	9	4	14	37	11	31	10	40	15	313
Developmental Diseases	24	32	11	11	20	17	14	29	2	13	26	7	36	20	21	19	19	16	18	355
Old Age	28	20	10	12	13	12	12	20	8	14	13	31	21	45	23	20	33	29	43	407
Meningitis	9	7	3	3	11	17	6	5	1	4	..	4	11	6	7	11	5	8	5	123
Convulsions	10	10	7	4	2	11	4	12	..	3	11	7	7	14	7	11	11	14	1	146
Diseases of Heart	55	46	38	26	21	21	13	38	7	26	34	34	45	58	40	41	59	62	27	691
Cerebral Hæmorrhage	23	17	9	6	9	13	5	7	2	7	15	17	13	22	14	14	15	17	6	231
Bronchitis	66	66	31	23	61	62	37	59	21	36	41	45	51	64	43	72	47	66	30	921
Pneumonia	70	61	36	23	40	70	38	71	12	31	31	30	22	76	54	63	38	86	15	867
Diseases of Stomach	10	4	3	1	3	5	11	5	3	2	3	7	10	3	12	17	7	5	..	111
Obstruction of Intestines	4	1	1	3	6	4	1	3	1	2	2	4	5	5	1	3	7	5	3	61
Cirrhosis of Liver	4	6	5	3	2	2	1	3	3	3	6	4	5	9	..	7	7	3	1	74
Nephritis and Bright's Dis.	10	15	9	3	9	13	7	12	5	8	16	12	15	22	9	21	15	14	4	219
Tumours and other Affections of Female Genital Organs	..	..	..	..	..	..	1	..	..	..	1	..	1	2	1	1	2	2	..	11
Accidents and Diseases of Parturition	3	2	2	1	..	..	..	1	..	..	1	..	..	3	3	1	4	6	..	27
Accidents or Negligence	20	25	14	6	7	6	9	18	5	13	14	11	22	32	23	15	15	22	5	282
Suicides	7	1	1	..	1	1	..	..	1	2	7	2	6	4	4	3	5	3	1	49
Ill-defined Causes	..	2	1	..	..	1	1	..	..	1	1	2	1	1	2	1	1	1	2	18
All other Causes	81	66	55	26	21	36	25	48	25	35	51	68	54	76	39	54	69	61	58	948
Total Deaths	676	618	390	247	388	494	287	543	153	317	396	394	493	791	478	662	548	694	310	8879
Deaths under One Year	173	175	97	56	103	162	74	163	30	77	100	64	142	198	136	195	102	197	56	2300
Births	1279	1357	730	355	689	815	370	824	151	569	625	638	795	1658	794	1178	1039	1570	183	15619

TABLE VI.

Deaths, under 1 year, Registered in, or belonging to, each Ward during the Year ending December 28th, 1907.

CAUSES OF DEATH.	WARDS.																			
	Rotton Park.	All Saints.	Ladywood.	St. Paul's.	St. George's.	St. Stephen's.	St. Mary's.	St. Bartholomew's.	Market Hall.	St. Thomas'.	St. Martin's.	Edgbaston & Harborne.	Deritend.	Bordesley.	Duddeston.	Nechells.	Balsall Heath	Saltley.	Not located.	City.
Smallpox	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	6	7	2	4	4	2	2	4	1	2	1	4	..	7	6	8	4	14	3	81
Scarlet Fever	..	..	..	.	.	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
Epidemic Influenza	1	..	..	..	..	..	..	..	.	..	..	1	..	1	.	..	..	..	..	3
Whooping Cough	2	2	3	..	2	2	1	8	1	2	5	1	5	11	4	2	4	8	..	63
Diphtheria, Memb. Croup	..	1	..	..	..	..	..	..	2	..	2	..	2	..	..	..	..	..	..	7
Croup	..	..	..	..	..	1	..	..	..	..	..	..	.	..	..	..	..	..	..	1
Enteric Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa, Dysentery	4	5	9	3	15	8	1	14	1	5	2	3	12	8	8	10	3	8	1	120
Epidem. or Zymotic Enteritis	3	..	6	..	5	16	1	5	..	3	2	3	1	4	4	14	..	1	..	68
Enteritis	4	9	1	4	10	18	3	6	1	4	4	..	3	11	3	10	10	9	6	116
Other continued Fevers	1	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	3
Erysipelas	1	..	..	..	..	..	..	1	..	..	..	..	1	..	1	..	..	1	..	5
Other Septic Diseases	..	2	3	..	..	..	..	.	..	..	1	2	..	..	..	3	..	..	..	11
Tuberculosis of Meninges	1	3	..	1	1	..	1	1	..	1	1	..	..	2	3	2	4	2	..	23
Tuberculosis of Lungs	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Abdominal Tuberculosis	4	2	..	..	..	2	3	6	..	..	..	..	2	3	2	6	..	2	..	32
Other Forms of Tuberculosis	1	1	..	..	2	..	..	..	..	..	..	1	1	4	..	1	2	..	..	13
Cancer	..	..	..	..	.	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Premature Birth	31	24	16	5	14	17	5	14	7	10	13	7	27	29	17	31	19	26	6	318
Congenital Defects	34	20	9	8	11	15	10	21	5	6	9	4	14	36	12	30	8	39	15	306
Developmental Diseases	18	29	11	8	16	15	11	20	2	10	24	6	31	18	15	15	17	15	16	297
Meningitis	4	1	2	1	5	6	3	2	..	2	..	1	4	2	3	4	1	1	..	42
Convulsions	9	10	6	4	1	10	3	10	..	2	9	7	4	9	7	7	9	12	1	120
Diseases of Heart	1	..	..	.	..	..	..	..	..	2	1	..	1	..	..	..	..	..	..	5
Cerebral Hæmorrhage	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bronchitis	16	22	5	8	5	13	9	10	6	6	11	7	5	12	10	17	7	18	1	188
Pneumonia	17	21	15	3	6	26	8	22	3	13	5	7	6	26	19	18	8	29	1	253
Diseases of Stomach	..	2	..	..	..	2	9	3	..	..	..	2	5	1	11	10	1	..	..	46
Obstruction of Intestines	1	..	..	1	2	1	..	..	..	1	..	..	1	1	..	1	..	1	1	11
Nephritis and Bright's Dis.	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	1	..	..	..	4
Accidents or Negligence	8	9	4	3	3	4	2	8	1	5	7	2	12	7	8	2	4	5	..	94
Ill-defined Causes	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	.	..	2	4
All other Causes	5	4	4	2	1	4	1	6	..	2	2	6	4	5	3	3	1	6	3	62
Total Deaths	173	175	97	56	103	162	74	163	30	77	100	64	142	198	136	195	102	197	56	2306

TABLE VII.—COMPARISON OF PREVALENCE OF SICKNESS AND DEATH FROM INFECTIOUS DISEASES.

(Rates calculated per 1,000 persons on the population estimated to the middle of each year.)

Year.	Smallpox.		Scarlet Fever.		Diphtheria, Membranous Croup.		Typhus Fever.		Typhoid Fever.		Puerperal Fever.		Erysipelas.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
*1890	...	...	7·31	0·49	0·69	?	0·00	...	0·66	0·14	0·03	0·00	0·97	0·04
*1891	0·11	0·02	3·42	0·21	0·48	?	...	...	0·93	0·18	0·03	0·01	0·86	0·03
1892	0·06	...	2·94	0·14	1·10	0·21	...	...	0·54	0·08	0·08	0·05	1·18	0·07
1893	2·01	0·14	3·31	0·14	0·79	0·17	0·01	...	1·00	0·19	0·11	0·08	1·75	0·05
1894	4·22	0·35	3·64	0·15	0·83	0·18	...	...	1·04	0·21	0·09	0·04	1·57	0·03
1895	0·20	0·02	6·00	0·27	1·50	0·43	...	...	0·88	0·17	0·05	0·03	1·65	0·04
1896	0·03	0·01	6·65	0·32	2·35	0·58	...	...	0·95	0·21	0·06	0·04	1·54	0·04
1897	...	...	3·81	0·19	1·41	0·32	0·00	0·00	1·06	0·18	0·03	0·02	1·16	0·04
1898	...	...	2·60	0·09	1·36	0·26	...	...	1·25	0·22	0·05	0·03	1·25	0·03
1899	...	...	2·44	0·06	1·40	0·29	...	...	1·52	0·23	0·06	0·03	1·23	0·04
1900	0·00	...	3·98	0·18	1·05	0·15	...	...	1·64	0·35	0·08	0·05	1·31	0·05
1901	...	...	6·35	0·29	1·02	0·16	...	...	1·18	0·21	0·06	0·05	1·39	0 04
1902	0·13	0·01	9·39	0·55	1·47	0·24	...	...	1·01	0·19	0·07	0·04	1·42	0·06
1903	0·47	0·02	5·33	0·27	1·66	0·25	...	...	0·65	0·12	0·06	0·04	1·21	0·04
1904	0·01	...	3·09	0·12	1·17	0·21	...	...	0·46	0·07	0·07	0·05	1·11	0·05
1905	0·07	0·00	3·11	0·10	1·29	0·18	...	...	0·39	0·07	0·07	0·04	1·10	0·06
1906	...	...	3·32	0·10	1·50	0·17	...	...	0·35	0·07	0·05	0·03	1·08	0·04
1907	...	...	4·58	0·17	1·84	0·18	...	...	0·45	0·09	0·09	0·05	1·08	0·03

* Prior to enlargement of City.

TABLE VIII.

Number of Cases Reported under the Infectious Disease (Notification) Act, 1889, during each Week of the Year 1907.

Week. Number.	Week. Date of ending.	Smallpox.	Scarlet Fever	Diphtheria & Membr. Croup	Typhus Fever	Typhoid Fever.	Simple Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Total.
	1907.											
1	January 5th	...	32	23	...	6	...	...	1	...	18	80
2	,, 12th	...	38	12	...	6	...	...	...	...	14	70
3	,, 19th	...	38	15	...	6	...	...	2	...	13	74
4	,, 26th	...	34	20	...	8	...	...	...	...	7	69
5	February 2nd	...	37	16	...	10	...	...	1	...	13	77
6	,, 9th	...	32	29	...	2	...	...	1	...	7	71
7	,, 16th	...	47	19	...	6	...	...	3	...	14	89
8	,, 23rd	...	37	24	...	7	...	...	1	...	13	82
9	March 2nd	...	34	29	...	7	...	...	...	...	13	83
10	,, 9th	...	33	17	...	14	...	...	...	...	14	78
11	,, 16th	...	34	21	...	11	...	...	4	...	14	84
12	,, 23rd	...	28	26	...	8	...	...	1	...	9	72
13	,, 30th	...	42	22	...	6	...	...	1	...	8	79
14	April 6th	...	37	13	...	6	...	...	...	...	8	64
15	,, 13th	...	27	22	...	3	...	...	...	...	6	58
16	,, 20th	...	29	20	...	4	...	...	3	...	11	67
17	,, 27th	...	35	24	...	4	...	...	...	...	7	70
18	May 4th	...	34	20	...	3	...	...	...	...	11	68
19	,, 11th	...	38	19	...	6	...	...	2	...	13	78
20	,, 18th	...	32	22	...	4	...	...	1	...	8	67
21	,, 25th	...	43	15	...	4	...	...	2	...	10	74
22	June 1st	...	38	17	...	...	...	...	1	...	10	66
23	,, 8th	...	35	21	...	...	...	...	...	...	10	66
24	,, 15th	...	35	16	...	...	...	...	...	...	12	63
25	,, 22nd	...	41	19	...	4	...	...	...	...	3	67
26	,, 29th	...	31	20	...	2	...	...	1	...	16	70
27	July 6th	...	31	14	...	3	...	...	...	...	10	58
28	,, 13th	...	45	26	...	1	...	...	3	...	12	87
29	,, 20th	...	74	18	...	1	...	...	2	...	9	104
30	,, 27th	...	47	18	...	2	...	...	1	...	13	81
31	August 3rd	...	51	12	...	1	...	...	...	...	7	71
32	,, 10th	...	33	17	...	6	...	...	...	...	6	62
33	,, 17th	...	46	19	...	4	...	...	...	...	17	86
34	,, 24th	...	38	12	...	3	...	...	...	...	11	64
35	,, 31st	...	46	18	...	3	...	...	...	...	14	81
36	September 7th	...	71	20	...	9	...	...	2	...	13	115
37	,, 14th	...	44	19	...	5	...	...	2	...	9	79
38	,, 21st	...	79	13	...	2	...	...	1	...	13	108
39	,, 28th	...	85	27	...	3	...	...	1	...	20	136
40	October 5th	...	85	29	...	6	...	...	1	...	12	133
41	,, 12th	...	68	19	...	3	...	...	1	...	11	102
42	,, 19th	...	83	20	...	6	...	...	...	...	13	122
43	,, 26th	...	70	19	...	6	...	...	1	...	12	108
44	November 2nd	...	73	23	...	4	...	...	3	...	9	112
45	,, 9th	...	58	12	...	5	...	...	1	...	8	84
46	,, 16th	...	74	17	...	10	...	...	2	...	23	126
47	,, 23rd	...	79	30	...	7	...	...	...	...	14	150
48	,, 30th	...	66	25	...	5	...	...	1	...	15	112
49	December 7th	...	85	25	...	2	...	...	...	...	13	125
50	,, 14th	...	63	14	...	7	...	...	...	...	11	95
51	,, 21st	...	55	13	...	4	...	...	...	...	19	91
52	,, 28th	...	52	12	...	3	...	...	...	...	3	70
	Totals	...	2522	1012	...	248	...	...	47	...	599	4428

Cases removed to City Hospital :—Smallpox, 0 ; Scarlet Fever, 2243 ; Diphtheria, 550 ; Typhoid Fever, 153.

TABLE IX.

TEMPERATURE OF THE AIR AND GROUND, RAINFALL, SUNSHINE, AND WIND, IN EACH MONTH OF THE YEAR 1907.

Observed at the Birmingham and Midland Institute Observatory, Edgbaston, by Mr. Alfred Cresswell.

MONTH	TEMPERATURE OF THE AIR.						TEMPERATURE OF THE GROUND.		HOURS OF SUNSHINE.		RAINFALL IN INCHES.		DAYS ON WHICH 0·01 INCH OR MORE OF RAIN FELL.	MILES OF WIND	
	Highest in the shade.		Lowest in the shade.		Mean for the Month.		Maximum at 1 foot deep.	Maximum at 4 feet deep.							
	1907.	Above or below the previous highest. *	1907.	Above or below the previous lowest. *	1907.	Above or below the average. *			1907.	Above or below the average. *	1907.	Above or below the average. *		1907.	Above or below the average.
JAN....	49·8	− 8·2	15·3	+ 4·5	38·1	+ 0·4	42·9	45·0	20	− 15	0·90	− 1·05	9	9932	− 253
FEB....	52·5	− 9·4	20·2	+ 12·2	37·0	− 1·0	42·0	43·3	42	− 10	1·09	− 0·49	14	9581	+ 270
MAR.	66·6	+ 1·8	28·3	+ 7·0	44·1	+ 3·2	46·1	44·0	135	+ 47	1·01	− 0·76	15	10265	− 1903
APR.	66·0	− 13·0	29·5	+ 2·6	45·4	+ 0·1	48·2	45·2	70	− 46	1·93	+ 0·49	14	8732	− 559
MAY...	76·8	− 0·8	33·0	+ 2·0	50·9	− 0·1	52·9	47·6	101	− 37	3·93	+ 1·92	16	9215	+ 108
JUNE	72·9	− 9·9	42·4	+ 4·8	54·1	− 3·5	53·3	49·9	102	− 48	2·57	+ 0·54	22	11507	+ 3480
JULY	76·8	− 11·2	42·2	+ 2·7	57·3	− 3·0	58·0	52·2	107	− 39	2·90	+ 0·83	17	7374	− 804
AUG.	72·6	− 16·6	45·1	+ 3·9	57·8	− 1·4	57·0	53·0	147	+ 6	2·28	+ 0·60	18	9565	+ 1002
SEPT.	74·7	− 15·9	41·0	+ 8·0	57·3	+ 1·6	55·9	53·2	116	− 1	0·90	− 0·84	5	5920	− 2192
OCT....	65·1	− 4·9	35·3	+ 7·4	49·5	+ 1·5	54·4	53·1	58	− 11	5·80	+ 3·11	21	8540	− 476
NOV.	54·8	− 6·8	29·0	+ 9·0	43·9	+ 1·0	49·0	50·2	31	− 4	2·07	− 0·12	16	7831	− 1413
DEC.	52·8	− 3·2	29·1	+ 14·6	39·5	+ 1·0	46·0	47·2	25	− 5	3·43	+ 1·16	17	11088	+ 937

* In the twenty years 1887-1906.

TABLE X.

Temperature and Rainfall in each Month and Year from 1897 to 1907.

MEAN TEMPERATURE.

(From Maximum and Minimum Readings.)

MONTH	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	Average for 20 years 1887-1906	1907
	°	°	°	°	°	°	°	°	°	°	°	°
JAN.	34·0	42·6	40·6	39·2	37·4	40·2	39·1	38·8	37·9	40·6	37·7	38·1
FEB.	42·0	39·6	40·8	36·2	35·4	34·1	43·9	37·1	40·7	37·1	38·0	37·0
MAR	43·4	38·7	41·2	37·8	38·6	44·6	44·0	39·7	43·9	40·8	40·9	44·1
APR.	43·7	46·5	46·0	47·2	47·4	45·4	43·3	47·7	44·4	45·2	45·3	45·4
MAY	49·9	49·4	49·5	50·0	52·7	47·8	51·6	51·6	51·0	50·6	51·0	50·9
JUNE	58·7	56·2	59·1	57·9	56·7	56·5	54·8	56·0	58·7	57·6	57·6	54·1
JULY	61·5	59·3	62·9	64·1	64·5	58·3	59·5	63·3	63·3	61·4	60·3	57·3
AUG.	60·5	57·4	64·5	59·6	60·5	57·5	57·2	59·1	57·9	63·4	59·2	57·8
SEPT.	52·9	59·4	56·1	57·0	57·0	55·4	55·4	53·9	54·0	57·9	55·7	57·3
OCT.	49·9	51·5	49·0	49·1	49·3	49·2	50·4	49·7	44·7	50·9	48·0	49·5
NOV.	44·8	44·3	47·0	44·6	40·5	43·9	43·4	41·6	40·6	44·8	42·9	43·9
DEC.	40·2	44·6	35·9	44·0	37·5	39·5	37·5	38·4	40·0	37·5	38·5	39·5
YEAR	48·5	49·1	49·4	48·9	48·1	47·7	48·3	48·0	48·1	49·0	48·0	47·9

TOTAL RAINFALL.

MONTH	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	Average for 20 years 1887-1906	1907
JAN.	1·89	0·83	3·44	3·53	1·37	1·02	1·97	2·92	0·95	3·85	1·95	0·90
FEB.	2·54	1·47	1·99	4·28	1·34	1·60	1·41	3·80	0·68	2·04	1·58	1·09
MAR.	3·14	0·63	1·02	0·70	1·76	1·59	4·63	1·54	3·52	1·13	1·77	1·01
APR.	2·02	1·85	2·40	0·92	1·95	2·49	1·64	1·12	2·30	1·32	1·44	1·93
MAY	1·20	2·62	2·20	2·09	1·11	2·95	2·67	2·25	0·28	2·78	2·01	3·93
JUNE	4·13	1·06	3·28	2·41	1·84	2·40	1·66	0·46	2·00	2·86	2·03	2·57
JULY	0·95	1·29	1·10	1·74	3·13	1·59	2·14	2·50	1·91	0·89	2·07	2·90
AUG.	3·81	2·57	1·08	2·89	2·13	4·43	5·16	1·85	4·40	0·89	1·68	2·28
SEPT.	2·48	0·64	2·80	0·80	0·65	1·49	2·55	1·40	1·01	1·18	1·74	0·90
OCT.	1·31	2·74	2·37	3·08	1·84	2·33	6·55	0·88	1·34	4·86	2·69	5·80
NOV.	1·96	2·51	1·49	2·40	1·23	2·23	1·65	1·37	3·04	2·58	2·19	2·07
DEC.	2·78	2·24	1·95	4·25	4·29	1·86	1·80	1·81	0·83	2·14	2·27	3·43
YEAR	28·21	20·45	25·12	29·09	22·64	25·98	33·83	21·94	22·30	26·56	24·58	28·86

TABLE XI.

Summary of Nuisances abated and other work done during the years 1906 and 1907.

	1906.	1907.
ABATEMENT OF NUISANCES.		
Houses cleansed (walls and ceilings)	1,396	1,337
Houses repaired...	3,025	2,685
Houses provided with better ventilation ...	120	87
Damp courses inserted	68	119
Cases of overcrowding remedied	29	30
Accumulations of water in cellars removed ...	311	296
Rain-water spouts repaired or disconnected ..	821	500
Ashpit privies converted to water-closets ..	240	179
Pan privies converted to water-closets ...	3,183	2,643
Privies and closets limewashed	498	540
Water-closets repaired or altered	1,486	1,483
Ashplaces repaired or reconstructed	295	350
Additional water-closets provided	96	95
Additional ashtubs provided	1,326	1,143
Urinals repaired or reconstructed	72	45
Drains relaid or repaired	501	617
Drains opened and cleansed	3,623	3,208
Drains efficiently trapped	2,363	2,146
Drains in cellars disconnected from the sewer or abolished	73	31
New sinks provided	412	540
Sink drains disconnected from the sewer ...	18	22
Sink bend-pipes repaired or affixed	72	100
Premises supplied with additional drains ...	272	300
Back yards paved	112	63
Back yards repaired	367	315
Tenants made to cleanse yard and outbuildings	246	144
Wash-houses repaired	247	302
Premises from which fowls have been removed	76	56
Nuisances from swine and swine styes abated	18	24
Accumulations of wash, manure &c., removed	251	263
Other nuisances abated...	117	108
Number of persons summoned...	33	28
Amount of penalties	£0/10/0	£0/5/0
Amount of costs...	£9/4/0	£8/2/0
WORK OF CLEANSING STAFF.		
Courts cleansed by arrangement	5,703	6,425
Other courts cleansed	3,122	3,561
Pan privies swilled	31,407	17,139
Ashplaces swilled	42,942	31,860

TABLE XI.—*continued.*

	1906.	1907.
Houses stripped and limewashed	91	168
Other buildings limewashed	80	12
Amount charged	£45/2,0	£82/7/6
INSPECTION OF WATER-CLOSETS.		
Number of water-closets inspected	92,319	60,373
Number found with dirty basins	6,924	5,097
Number found with dirty seats	1,330	1,833
Number found with dirty floors	1,399	1,843
Number found obstructed	1,899	1,266
Number found defective	765	497
INFECTIOUS DISEASES.		
Houses disinfected	3,054	4,172
Beds, pillows, sheets, &c. disinfected	23,742	29,486
Garments disinfected	10,693	10,310
Other articles disinfected	12,864	13,296
Persons summoned	—	2
Amount of penalties	—	£0/5/0
Amount of costs...	—	—
SMOKE NUISANCES.		
Observations made by inspectors	8,229	7,934
Infringements reported...	251	275
Manufacturers cautioned	116	119
Manufacturers summoned	115	116
Amount of penalties	£82/15/0	£89/0/0
Amount of costs...	£41/19/6	£41/0/8
LODGING HOUSES.		
Number of common lodging houses	36	38
Lodgers allowed...	2,000	2,216
Registered houses let in lodgings	360	430
Lodgers allowed...	2,016	2,381
Visits by day to common lodging houses and houses let in lodgings	8,836	7,615
Visits by night to common lodging houses ...	587	677
Keepers summoned	9	0
Amount of penalties	£2/5/0	—
Amount of costs...	£2/6/0	—

TABLE XI.—*continued.*

	1906.	1907.
CANAL BOATS.		
Number of canal boats on register	394	391
Number of inspections made	1,059	1,047
Breaches of regulations discovered:		
Cases of overcrowding	9	13
Sexes not separated...	4	6
Want of cleanliness...	0	3
Water receptacle not provided	8	17
Not in habitable condition	8	1
Other contraventions	50	41
FACTORY AND WORKSHOP ACT, 1901.		
Factories inspected	810	1,080
Workshops inspected	6,941	8,003
Workplaces inspected	287	752
Homeworkers' premises inspected	812	1,749
Nuisances under Public Health Act:		
Want of cleanliness...	1,264	2,142
Want of ventilation...	69	34
Overcrowding	8	3
Want of drainage of floors	6	14
Premises requiring repairs	114	76
Accumulations of rubbish	180	193
Defective drains	287	337
Other nuisances	275	300
Sanitary accommodation insufficient ...	83	81
Sanitary accommodation unsuitable or defective	1,076	1,805
Sanitary accommodation not separate for sexes	42	54
Offences under Factory and Workshop Act:		
Failure to send in lists of outworkers, &c.	62	56
Giving out work to unwholesome or infected premises	0	1
Persons summoned	28	24
Amount of penalties	£8/7/6	£4/15/0
Amount of costs...	£11/9 0	£10/8/6
Number of lists of outworkers received ...	338	455
Number of outworkers therein...	2,476	4,389
SHOP HOURS ACTS.		
Number of visits	1,421	1,095
Persons summoned	8	4
Amount of penalties	£1/10/0	£0/7/6
Amount of costs...	£3/7/6	£1/16/0

TABLE XI.—*continued.*

	1906.	1907.
SEATS FOR SHOP ASSISTANTS ACT.		
Number of visits	810	624
Persons summoned	1	0
Amount of penalties	£0/10/0	—
Amount of costs...	£0/8/0	—
DAIRIES AND MILKSHOPS.		
Dairies on the register	14	13
Milkshops on the register	2,379	2,461
Purveyors on the register	354	425
Visits to dairies	66	44
Visits to milkshops and milk stores	4,487	4,137
Dirty churns found at railway stations ...	0	2
Dirty vessels found at milkshops and milk stores...	30	29
Shops, cellars, and pantries limewashed ...	122	150
Lamp oil, fish, tripe, and vinegar businesses prohibited	39	15
HEALTH VISITORS' WORK.		
Number of visits	31,975	34,321
Number of revisits	9,585	10,668
Instructions given to—		
Clean rooms	2,393	2,195
Remove filth from cellar	379	460
Destroy rubbish	1,584	2,113
Remove bedroom slops	3,611	3,183
Open windows	4,107	4,132
Unstop chimneys	406	257
Cleanse bedding	840	856
Use additional bedroom	273	203
Screen off beds	128	76
Get larger house	243	197
Provide additional beds	298	305
Get rid of lodgers	84	93
Wash children	1,071	1,285
Feed infants suitably	4,989	7,290
Clothe infants suitably	4,728	7,222
Obtain medical advice	732	808
Clean yard and outhouses	326	614

TABLE XII.—ANALYSIS OF CORPORATION WATER SUPPLY BY THE CITY ANALYST.

Date of Receipt of Sample.	PLACE WHERE TAKEN.	Parts per 100,000.								Appearance in 2ft. Tube.			
		Total Solid Matter.	Free Ammonia.	Albuminoid or Organic Ammonia.	Nitrogen in Nitrates.	Oxygen Consumed in 4 hours at 27° C. (80° F.)	Chlorine in Chlorides.	Hardness (as $CaCO_3$).	Alkalinity (as $CaCO_3$.)	Turbidity.*	Red.†	Yellow.†	Blue.†
1907.													
Jan. 21st	13, Highfield Road, Edgbaston	6·4	·000	·000	·00	·21	1·0	3·4	2·9	0·0	0·6	3·8	0·0
,, 21st	3 Court, Whitehead Rd., Aston	6·4	·001	·000	·00	·21	1·0	3·3	2·9	0·0	0·6	3·8	0·0
,, 21st	10 Cromwell Street	26·4	·000	·010	·04	·12	2·2	17·0	13·2	0·0	0·0	1·0	0·6
Feb. 18th	9 Church Road, Edgbaston ...	5·8	·001	·004	·00	·20	1·0	2·6	2·5	0·0	0·8	3·6	0·0
,, 18th	193 Victoria Road, Aston ...	5·8	·001	·002	·00	·20	1·0	2·6	2·4	0·0	0·8	3·6	0·0
,, 18th	Prospect Place, Holborn Hill	5·8	·001	·006	·00	·20	1·0	2·6	2·5	0·0	0·8	3·6	0·0
Mar. 18th	166 Hagley Road	7·0	·001	·006	·00	·16	1·0	3·3	3·1	0·0	0·6	3·0	0·0
,, 18th	Back of 170 Hockley Hill ...	6·8	·001	·002	·00	·17	1·0	3·3	3·1	0·0	0·6	2·8	0·0
,, 18th	2 Court, Henry Street ...	6·8	·001	·004	·00	·16	1·0	3·3	3·0	0·0	0·6	2·8	0·0
April 22nd	15 Highfield Road, Edgbaston	6·4	·000	·004	·00	·16	1·0	3·1	2·9	0·0	0·2	2·4	0·0
,, 22nd	72 Icknield Street	6·6	·000	·006	·00	·16	1·0	3·1	2·8	0·0	0·2	2·4	0·0
,, 22nd	6 Holt Street	6·4	·000	·004	·00	·16	1·0	3·2	2·8	0·0	0·2	2·2	0·0
May 27th	94 Hagley Road	6·4	·000	·003	·00	·15	1·0	3·2	2·8	0·0	0·2	2·2	0·2
,, 27th	56 Spring Hill	6·8	·000	·002	·00	·15	1·0	3·3	2·8	0·0	0·2	2·2	0·2
,, 27th	8 Howe Street	6·4	·000	·002	·00	·15	1·0	3·5	2·9	0·0	0·2	2·2	0·2
June 10th	13 Highfield Road, Edgbaston	6·2	·001	·002	·00	·12	1·0	2·5	2·6	0·0	0·6	2·6	0·4
,, 10th	3 Court, Whitehead Rd., Aston	6·0	·000	·002	·00	·12	1·0	2·5	2·5	0·0	0·4	2·0	0·2
,, 10th	10 Cromwell Street	5·8	·000	·006	·00	·12	1·0	2·5	2·5	0·0	0·4	2·2	0·2

July 5th	Metchley Lodge, Metchley Lane	6·2	·001	·007	·00	·13	1·0	3·1	2·6	0·0	0·4	2·2	0·2
,, 5th	Littleton Place, Balsall H. Rd.	6·4	·000	·006	·00	·13	1·0	3·1	2·7	0·0	0·2	2·2	0·2
,, 5th	28 Court, Moseley Street ...	6·2	·000	·005	·00	·14	1·0	3·0	2·6	0·0	0·2	2·2	0·2
Aug. 16th	11 Handsworth New Road ...	6·4	·001	·004	·00	·22	0·9	3·0	2·8	0·0	0·6	3·4	0·0
,, 16th	9 Court, Newhall Street ...	6·6	·000	·006	·00	·23	0·9	3·0	2·8	0·0	0·6	3·4	0·0
,, 16th	Back 88 Long Acre	6·4	·000	·004	·00	·22	0·9	3·0	2·8	0·0	0·6	3·4	0·0
Sept. 16th	75 Cuthbert Road	6·8	·001	·009	·00	·27	1·0	3·1	3·0	0·0	1·2	5·5	0·0
,, 16th	Back 9 Moreton Street ...	7·0	·000	·006	·00	·28	0·9	3·2	3·0	0·0	1·2	5·8	0·0
,, 16th	153 Nechells Park Road ...	7·0	·000	·006	·00	·28	0·9	3·2	3·0	0·0	1·4	5·8	0·0
Oct. 18th	15 City Road	6·0	·000	·006	·00	·26	0·9	3·0	2·9	0·0	1·4	6·4	0·0
,, 18th	45 St. Mark's Street ...	6·4	·001	·005	·00	·25	0·9	3·0	2·8	0·0	1·4	6·4	0·0
,, 18th	34 Lord Street	6·6	·001	·004	·00	·26	0·9	3·0	2·9	0·0	1·4	6·4	0·0
Nov. 15th	40 Augustus Road	7·0	·001	·006	·00	·26	0·9	3·5	3·1	0·0	1·4	6·4	0·0
,, 15th	3 Court, Lee Bank Road ...	7·2	·001	·006	·00	·26	0·9	3·3	3·1	0·0	1·4	6·4	0·0
,, 15th	26 Court, Charles Henry St.	7·2	·001	·004	·00	·26	0·9	3·4	3·2	0·0	1·4	6·4	0·0
Dec. 9th	215 High Street, Harborne ...	7·4	·001	·007	·00	·26	0·9	3·1	3·0	0·0	1·4	6·4	0·2
,, 9th	56 Priestley Road	6·8	·001	·007	·00	·27	0·9	3·1	3·0	0·0	1·4	6·4	0·2
,, 9th	121 Varna Road	7·6	·001	·009	·00	·26	0·9	3·2	3·0	0·0	1·4	6·2	0·2
Average Results, 1907 ...		7·1	·001	·005	·0	·20	1·0	3·5	3·1	0 0	0·7	3·9	0·1
,, ,, 1906		6·1	·000	·006	0	·18	1·0	2·8	2·3	0·2	0·8	3·9	0·0
,, ,, 1905 ...		12·3	·001	·008	·0	·19	1·2	7·4	5·3	0·3	0·8	4·2	0 1
,, ,, 1904 ...		28 6	·000	·008	·2	·12	2·1	17·6					
,, ,, 1903 ...		32·6	·006	·013	·2	·14	2·2	21·1					

* "0" indicates "clear," "1" indicates "very slightly turbid."

† The colour is expressed in tintometer units. Red with an equal amount of yellow forms *orange*, yellow with an equal amount of blue forms *green*, and equal amounts of the three colours indicate *grey*.

TABLE XIII.

RETURN FOR THE PERIOD 1ST JULY, 1906, TO 30TH JUNE, 1907, RESPECTING THE VACCINATION OF CHILDREN WHOSE BIRTHS WERE REGISTERED IN THE CITY DURING THE SAID PERIOD.

	Number of Births returned in the "Birth List Sheets" as Registered.	Number of these Births duly entered in Columns I., II., IV., and V. of the "Vaccination Register" (Birth List Sheets), viz.:					Number of these Births which remained unentered in the "Vaccination Register" on account (as shown by Report Book) of			Number of these Births remaining neither duly entered in the "Vaccination Register" (cols. 3, 4, 5, 6 and 7 of this Return) nor temporarily accounted for in the "Report Book" (cols. 8, 9, and 10 of this Return).
		Col. I.	Col. II.		Col. IV.	Col. V.				
		"Successfully Vaccinated."	"Insusceptible of Vaccination."	"Had Smallpox."	"Number in respect of whom Certificates of conscientious objection have been received."	"Dead, Unvaccinated."	Postponement by Medical Certificate.	Removal to Districts the Vaccination Officer of which has been duly apprised.	Removal to places unknown or which cannot be reached; and cases not having been found.	
1	2	3	4	5	6	7	8	9	10	11
Birmingham Parish ...	7,528	5,759	32	—	34	911	77	79	632	4
Aston Union (within the City)	6,752	5,240	33	—	50	700	89	70	452	118
King's Norton Union (within the City) ...	1,593	1,376	3	—	20	107	24	15	44	4
Total	15,873	12,375	68	—	104	1,718	190	164	1,128	126

INDEX.

REPORT

BY THE

MEDICAL OFFICER OF HEALTH

AND THE

VETERINARY SUPERINTENDENT

ON

TUBERCULOSIS

AND THE

MILK SUPPLY IN BIRMINGHAM.

October, 1907.

HEALTH DEPARTMENT,

COUNCIL HOUSE.

BIRMINGHAM.

October 8th, 1907.

To the Chairman and Members of the Health Committee, Birmingham.

Gentlemen,

TUBERCULOSIS AND THE MILK SUPPLY.

By our local Act of 1903 powers were obtained which it was hoped would demonstrate the extent to which the milk supply contained the infection of Tuberculosis, and which at the same time would give some means of excluding this infection from the supply.

In popular language, the 1903 Act gave the following powers :—

1. Any person who knowingly sells milk from a cow suffering from Tuberculosis of the udder is liable to a penalty.

No case has occurred which could be brought under these conditions; indeed, it is not often that such a case can be proved.

2. Any person who, after becoming aware of the fact that one of his cows is suffering from Tuberculosis of the udder, permits such cow to remain in any field, shed, etc., along with other cows in milk, is liable to a penalty.

Here again no instance of offence has come to light, and it may be said that as a general rule an offence under this clause will be difficult to prove.

Proof will in each case have to be forthcoming that the Cowkeeper knew of the Tubercular condition and further that the contact took place—not an easy matter for the Birmingham Officers when dealing with country cowsheds. In those cases of the kind which have been detected the dairy farmers presumably were unaware of the actual condition until it was pointed out to them by the Corporation officers. In none of the cases did any farmer take steps to find out the real condition of the affected udder, but as soon as informed of the nature of the affection, each at once complied with the requirements of this clause, although none seemed fully to appreciate the necessity for segregation.

3 Any person who supplies milk in the city, and who fails to notify that a cow is suffering from, or is suspected of, or exhibits signs of, Tuberculosis of the udder, is liable to a penalty of £2.

Although the Act has been extensively advertised—direct notices having on two or three occasions been sent to all farmers and others sending in milk—yet up to the present time no single case has been notified. There must be hundreds of cows that come within the requirements of this clause.

4. Power is given to take samples of milk in Birmingham for testing purposes. Having obtained information that such milk is infected, power is given to go to the cowsheds inside or outside the City, under guarded conditions, and take further samples from individual cows. When the cow, or cows, are thus proved to be infective, an order may be made prohibiting the sale of any milk from such cowshed, unless the owner takes proper precautions (such as slaughtering) to prevent his milk being infective.

Under this power many samples have been taken, and the results obtained form part of the material of this report.

Each of the powers above mentioned is most carefully guarded so that in no instance can the farmer or cowkeeper be unjustly treated. Indeed, so much care has been taken that many of the clauses are cumbrous, and can only be put in operation with great difficulty. We enclose herewith a copy of all the powers which we in Birmingham possess in regard to the milk supply.

Immediately on the passing of the Act of 1903, which gave us these additional powers, the Health Committee took into consideration the best means of putting them into operation. For want of accommodation it was found that the necessary work could not be carried out at the Birmingham University at the time. The University Authorities, however, stated that they were about to enlarge their buildings, and that ample facilities could be given in the new buildings. It was, therefore, decided to wait.

The first samples of milk were taken on September 13th, 1906, and submitted for examination.

It may be stated here that the collection of the samples and their subsequent examination are highly technical processes. The collection in every case was undertaken by the Assistant Veterinary Surgeon of the Corporation, and the subsequent examinations were made by Professor Leith and his staff.

Between September 13th, 1906, and July 31st, 1907, 261 samples were taken. These must be divided into groups, as otherwise overlapping will occur and too high a percentage of tubercular samples will result.

Group 1. 175 samples were taken from churns at the railway stations, and other places, of milk derived from outside Birmingham.

Group 2. 5 samples were taken from the mixed dairy milk of Birmingham cowkeepers.

Group 3. 81 samples, one a duplicate, were taken from individual cows at cowsheds inside or outside Birmingham. In each case the sample was taken from a cow which was probably affected.

The following is a summary of the results :—

Group 1.	Churns at Railway Stations ...	14%	tubercular.
Group 2.	Birmingham Cowsheds	0	"
Group 3.	Suspected Cows	6%	"

In the total number of samples the percentage found to be tubercular by Professor Leith has varied in a manner which is not easy of explanation.

Among the first	50	samples of mixed milks examined,			30%	were tubercular.
" second	50	"	"	"	8%	"
" third	50	"	"	"	6%	"
" last	25	"	"	"	8%	"

Altogether 180 samples of mixed milk have been examined, and of these 24 were found to contain tubercular infection, equalling 13·33 per cent. Wherever a mixed milk has been found to contain tubercular infection a visit has been paid to the farm and samples taken from individual cows. In the cases of these 24 infected milks 74 subsequent samples have been taken from individual cows, and of these 4 were proved to be tubercular.

The cause of failure in some of the cases may in all probability be due to the inconstant or the intermittent presence of tubercular infection in the milk of individual

cows. Sometimes, as is well known, an infective milk is obtained from a tubercular cow whose udder presents no evidence of disease, and it is in these cases particularly that the presence of tubercle bacilli in the milk is liable to be inconstant and vary from day to day. (More rarely a non-infective sample may be given by a cow with udder lesions—the liability to this probably being greatest in the early stages, and when only one quarter is affected. An illustration of milk being returned as non-infective which was secreted by a cow with mammary tuberculosis was furnished by Sample No. 188. On April 29th, 1907, this sample of milk was taken from a cow that had re-acted to the tuberculin test and had clinical tuberculosis of the udder, yet the milk was returned non-infective. The cow was killed two days after the sample was taken and *post mortem* examination presented well marked generalised tuberculosis, including tuberculosis of the udder.)

Another cause of failure in some cases may very probably lie with the source of the infection in some of the mixed milks. In connection with this the research work of Schroeder and Mohler, recorded in Bulletin 88 of the United States Bureau of Animal Industry, and reprinted in Vol. 20 of the Journal of Comparative Pathology, shows that not only the milk secretion, but the excretions of tubercular animals may be prolific sources of tubercular infection. They claim, in fact, that their experiments prove that the digestive tract is the main channel by which tubercle bacilli leave the bodies of tubercular cattle. If this be accepted, no one who has witnessed the milking of cows will question the possibility of tubercle bacilli gaining entrance to milk in cases where there is no mammary tuberculosis. Clearly this probable source of milk infection cannot be disregarded, and since no tubercular animal, whether in milk or not in milk, living in

cohabitation with dairy cows can be excluded from being a possible source of danger, the necessity for keeping all tubercular animals apart from the dairy stock is apparent. But in addition to these causes the failure to find the tubercular cow may be due to many other, the chief probably being that, owing to the length of time which has elapsed between the taking of the sample and the visit to the farm, the cowkeeper has removed the infected cow, as possibly it was an unthrifty animal.

The small percentage of tubercular samples in the milk taken from individual cows at the farm will be noted. This is no doubt to be accounted for in some degree by the reasons which have been mentioned as possible causes of failure to find the tubercular cow and which to a certain extent also apply here. But unquestionably one of the chief reasons lies in the special effort made to find the cow. When the Inspector visits a farm to take individual samples he knows that the mixed milk has contained tubercular infection, and his experience being that although he brings back two or three samples from the cows in the herd presenting the most suspicious indications of tuberculosis of the udder none of these may be found infective. As a consequence, and desiring to leave no loophole for escape, he has cast his net wide. From one farm he took samples from five cows out of seven, and in another farm five cows out of twelve, in each case taking samples from every cow presenting any indications that could in any way be regarded as suspicions of tuberculosis ; yet in both these cases, all samples were returned non-infective.

A reference letter was placed opposite the number of the sample of mixed milk found to be tubercular, and the subsequent testing in these cases was as follows :—

A. Sample No. 3. Taken at New Street Station on September 15th. Report received from University October 17th. Visit paid to farm on October 24th, and the following samples taken :—

No. 28	(Unthrifty cow, coughing badly)...	No tubercle bacilli found.
No. 29	(Off hind quarter hardened) ...	" "
No. 30	(One hardened quarter)	" "
No. 31	(Knotty quarter)	" "

B. Sample No. 6. Taken at New Street Station on September 13th. Report from University on October 17th. Visit paid to farm October 23rd, when the following samples were taken :—

Nos. 24 and 25	... ...	No tubercle bacilli found.
No. 26	(Right posterior quarter slightly hardened)	" "
No. 27	(Slight swelling of gland at side of udder)	" "

C. Sample No. 19. Taken at New Street Station on October 16th. Report from University November 17th. Visit to farm November 20th, when the following samples were taken :—

No. 38	(One quarter indurated)	No tubercle bacilli found.
No. 39	(Cow unthrifty)	" "
No. 40	(Indurated quarter)	" "

D. Sample No. 23. Taken at New Street Station on October 16th. Report from University on November 17th. Visit paid to farm on November 23rd, when the following samples were taken :—

No. 46	(Enlarged lymphatics)	No tubercle bacilli found.
No. 47	" "	" "
No. 48	(Indurated quarter)	" "
No. 49	(Cow unthrifty)	" "
No. 50	(Coughing, unthrifty)	" "

E. and F. Samples Nos. 35 *and* 36 (*same farm*). Taken at New Street Station on November 6th. Report received from University on December 10th. Visit to

farm on December 12th, when the following samples were taken :—

No. 57	(One dry quarter)	No tubercle bacilli found.
No. 58	(Knotty udder)	" "
No. 59	(Indurated quarter) ...	" "
No. 60	" "	Living tubercle bacilli found.
No. 61	(Dry quarter)	No tubercle bacilli found.
No. 62	(Indurated quarter) ...	Living tubercle bacilli found.

G. and H. Samples 41 *and* 43 (*same farm*). Taken at New Street Station, November 20th. Report from University on December 11th. Visit to farm December 18th, when the following samples were taken :—

No. 63	(Dry quarter)	No tubercle bacilli found.
No. 64	(Enlarged glands)	" "
No. 65	(Indurated quarter)	" "

I. Sample No. 44. Taken at New Street Station on November 20th. Report from University on December 14th. Visit to farm December 19th, when the following samples were taken :—

No. 70	(Coughing)	No tubercle bacilli found.
No. 71	(Unhealthy appearance)	" "
No. 72	(Thin and unthrifty)	" "

J. Sample No. 45. Taken at New Street Station on November 20th. Report from University on December 14th. Visit to farm December 18th, when the following samples were taken :—

No. 66	(Enlarged quarter)...	No tubercle bacilli found.
No. 67	(Knotty quarter)	" "
No. 68	" "	" "
No. 69	(Enlarged quarter)	" "

K. L. M. N. and O. Samples 51, 52, 53, 55, *and* 56 (*same farm*). Taken from churns in milk float on December 7th. Report from University on January 15th. Visit

to farm January 29th, when the following samples were taken :—

No. 84	(Thin, emaciated)	No tubercle bacilli found.
No. 85	(Thin, coughing, indurated udder)	" "
No. 86	(Knotty udder)	" "
No. 87	(Udder enlarged)	Living tubercle bacilli found.
No. 88	(Thin, coughing, enlargement of udder)	No tubercle bacilli found.
No. 89	(Blind quarter of udder)	" "

P. Sample No. 103. Taken at New Street Station on February 21st. Report from University on March 21st. Visit to farm on March 27th, when the following samples were taken :—

No. 153	(Thin, one dry quarter of udder)	No tubercle bacilli found.
No. 154	(Unthrifty, enlarged quarter of udder)	" "
No. 155	(Hardened quarters at back of udder)	" "
No. 156	(Right hind quarter atrophied and blind)	" "

Q. Sample No. 106. Taken at New Street Station on February 21st. Report from University on March 20th. Visit to farm on March 25th, when the following samples were taken :—

No. 150	(Blind quarter of udder) ...	No tubercle bacilli found.
No. 151	(Thin and emaciated)	" "
No. 152	(Very thin)	" "

R. Sample No. 107. Taken at New Street Station on February 21st. Report from University March 20th. Visit to farm March 25th, when the following samples were taken :—

No. 145	(Thin cow and emaciated) ...	No tubercle bacilli found.
No. 146	(very thin, coughing, left hind teat blind, and quarter dried up)	" "
No. 147	(Very thin)	" "
No. 148	(Right hind teat blind)	" "
No. 149	(Very thin, knotty udder) ...	" "

S. Sample No. 134. Taken at New Street Station on March 13th. Report from University April 10th. Visit to farm April 10th, when the following samples were taken :—

No. 171	(Thin, dry in left hind quarter)...	No tubercle bacilli found.
No. 172	(Unthrifty appearance)	" "
No. 173	(Left hind quarter enlarged and dry)	" "
No. 174	(Thin and unthrifty)	" "

T. Sample No. 167. Taken at New Street Station on April 10th. Report from University May 8th. Visit to farm May 13th, when the following samples were taken :—

No. 205	(Thin, small quarter of udder)...	No tubercle bacilli found.
No. 206	(Thin)	" "
No. 207	(Thin)	" "

U. Sample No. 168. Taken at New Street Station on April 10th. Report from University May 8th. Visit to farm May 15th, when the following samples were taken :—

No. 208	(Thin and coughing)	No tubercle bacilli found.
No. 209	(Thin)	" "
No. 210	(Blind quarter of udder) ..	" "
No. 211	(Thin and unthrifty)	" "

V. Sample No. 223. Taken at Small Heath Station on June 5th. Report from University on July 3rd. Visit to farm July 9th, when the following samples were taken :—

No. 243	(Cold recently in left fore quarter)	No tubercle bacilli found.
No. 244	(Very slight thickening of near hind quarter)	" "
No. 245	(Very slight thickening of off hind quarter)	Living tubercle bacilli found.
No. 246	(Right hind quarter slightly enlarged)	No tubercle bacilli found.
No. 247	(Slight induration of right hind quarter)	" "

W. Sample No. 240. Taken at Monument Lane Station on July 3rd. Report from University July 29th. Visit to farm July 31st, when the following samples were taken :—

No. 257	(Left hind quarter slightly thicker than right)	No tubercle bacilli found.
No. 258	(Slight enlargement of near hind quarter)	" "
No. 259	(Slight thickening of left hind quarter)	" "
No. 260	(Thickening of right hind quarter)	" "
No. 261	(Very slight thickening of right hind quarter)	" "

X. Sample No. 254. Taken at Snow Hill Station on July 11th. Report from University on August 8th. Visit to farm on August 13th, when the following samples were taken :—

No. 262	(Induration right hind quarter, acute mastitis left hind quarter)	No tubercle bacilli found.
No. 263	(Quarters of udder of unequal size)	" "
No. 264	(Thin)	" "

The striking facts brought to light by these figures are that 14 per cent. of the milk coming into Birmingham contains the infection of Tuberculosis.

The cows kept in Birmingham are undoubtedly to a much less extent liable to give infected milk. One can make this statement with some assurance, notwithstanding the fact that relatively few milks have been tested, because we carry out what is probably the best of all safeguards—a monthly inspection of the cows by a veterinary surgeon.

The towns that have been the pioneers in this work are Manchester and Liverpool, and we are indebted to the Medical Officers of these towns, and also of those of Leeds and Sheffield, for statistical information as to the prevalence of Tuberculosis infection in the mixed dairy milk during each year.

The Sanitary Authority of Liverpool has, since 1896, examined 4,697 samples of milk for tubercular infection. During the six years, 1901 to 1906, 2,212 samples of mixed milks have been examined. Of these, 220 samples were of mixed milks from Liverpool cowsheds, and 1,992 of mixed milks from country cowsheds. The proportion of tubercular milks found was :—

Mixed milks { Liverpool cows 0·91 per cent.
Country cows 14·5 per cent.

In Manchester the preventive measures against milk infection have been very carefully dealt with. The number of samples tested for each of the years 1901 to 1906 is set out below :—

Year.	No. of Samples of Mixed Milk examined.	Percentage found to be tubercular.
1901	310	8·7
1902	420	8·6
1903	432	10·4
1904	432	6·7
1905	764	6·2
1906	677	6·2
Total	3,035	Mean yearly percentage 7·8

Sheffield obtained powers in 1900 to enable samples to be taken for examination, and in addition to other samples the following number of examinations of mixed milks have been made :—

Year.	No. of Samples of Mixed Milk examined.	Percentage found to be tubercular.
1902	28	17·8
1903	66	16·6
1904	89	6·7
1905	68	14·7
1906	115	9·5
Total	366	Mean yearly percentage 13·05

Leeds obtained similar powers in 1901, and the following results have been obtained : —

Year.	*Samples examined.	Examination incomplete.	Pseudo Tubercular.	Tubercular.
1904	36	1	0	2
1905	166	70	3	7
1906	44	11	1	1
Totals	246	82	4	10

*In the return received it is not stated that each of these Samples was of mixed milk.

Excluding the samples which gave an incomplete reaction, and those showing pseudo Tuberculosis, we have 160 milks among which were found 10 tubercular samples, equalling 6·2 per cent.

Comparing these results, we get the following percentages :—

Liverpool		
(Country milks)	14·5	per cent.
(Town Milks) ...	0·91	per cent.
Manchester	7·8	(mean yearly percentage)
Sheffield	13·05	(mean yearly percentage)
Leeds*	6·2	per cent.
Birmingham ...	14·0	per cent.

*See note at foot of Leeds table.

Several important questions arise in considering the facts set out. Of these, one of the most important is : Does cows' milk containing the infection of Tuberculosis set up the disease in the human subject?

Everyone who is familiar with :—

(*a*) The conditions which give rise to the disease,

(*b*) The symptoms and signs of the disease,

(*c*) The gross pathological lesions produced, and

(*d*) The appearance and life history of the germ which gives rise to the disease,

is impressed with the fact that the disease in bovines, if not identical, very nearly resembles that in the human subject.

Professor Dr. Koch, to whom we owe so much as the discoverer of the germ of Tuberculosis, clearly laid it down in 1882 that the bovine disease was one and the same as the human disease, and that the bovines were a source of infection to man. On page 230 of his paper in the *Berliner Klinische Wochenschrift* he asserts, "Bovine Tuberculosis is identical with human Tuberculosis, and is thus a disease transmissible to man. It must, therefore, be treated like other infectious diseases transmissible from animals to human beings."

From the general observations of many expert workers, no real doubt was raised in this country as to the identity of the two diseases, and progress was being made in formulating schemes which will be referred to later, for the prevention of the disease among the cattle in this country.

While this is so, it is only proper to say that Theobald Smith, Frothingham, Dinwiddie, and some others who were studying the subject, dissented from the doctrine of the identity of the two diseases.

In 1901 Professor Dr. Koch himself, amid a storm of dissent, raised a doubt as to the identity of the two diseases at the British Congress on Tuberculosis. In his address he said,

> "Considering these facts, I feel justified in maintaining that human Tuberculosis differs from bovine, and cannot be transmitted to cattle. . . But, now, how is it with the susceptibility of man

> to the bovine Tuberculosis. . . . It is impossible to give the question a direct answer, because of course the experimental investigation of it with human beings is out of the question. . . . I should estimate the extent of infection by milk and the flesh of tubercular cattle, and the butter made from their milk, as hardly greater than that of hereditary transmission: and I, therefore, do not deem it advisable to take any measures against it."

The question raised was so important from the point of view of the prevention of Tuberculosis in the human subject that our Government very shortly afterwards (August 31st, 1901) appointed a Royal Commission to investigate it. Similar enquiries have also been made by other Governments. As our Royal Commission have recently issued an interim report dealing with the more important questions involved, the time appears to be opportune for giving the general results of their findings.

The important part of this report is the second interim report, issued January, 1907, price 9½d. This contains a summary of the investigation, and the conclusions arrived at up to the time of issue. Other volumes have already appeared detailing particular parts of this investigation, but these, however, are mainly intended for experts.

Fortunately for our present purpose, the finding of the Commission on the main point is given in such precise terms that it will be unnecessary to do more than reprint it.

"We may briefly sum up the bearings of the results at which we have already arrived as follows:—

"There can be no doubt that in a certain number of cases the Tuberculosis occurring in the human subject, especially in children, is the direct result of the introduction into the human body of the bacillus of bovine Tuberculosis; and there can also be no doubt that in the majority at least of these cases the bacillus is introduced through cows' milk. Cows' milk containing bovine tubercular bacilli is clearly a cause of Tuberculosis, and of fatal Tuberculosis in man.

"Of the sixty cases of human Tuberculosis investigated by us, fourteen of the viruses belonged to Group 1, that is to say, contained the bovine bacillus. If, instead of taking all these sixty cases, we confine ourselves to cases of Tuberculosis in which the bacilli were apparently introduced into the body by way of the alimentary canal, the proportion of Group 1 becomes very much larger. Of the total sixty cases investigated by us, twenty-eight possessed clinical histories indicating that in them the bacillus was introduced through the alimentary canal. Of these thirteen belonged to Group 1. Of the nine cases in which cervical glands were studied by us, three, and of the nineteen cases in which the lesions of abdominal Tuberculosis were studied by us, ten, belong to Group 1.

"These facts indicate that a very large proportion of Tuberculosis contracted by ingestion is due to tubercle bacilli of bovine source.

"A very large amount of disease and loss of life, especially among the young, must be attributed to the consumption of cows' milk containing tubercle bacilli. The presence of tubercle bacilli in cows'

milk can be detected, though with some difficulty, if the proper means be adopted, and such milk ought never to be used as food. There is far less difficulty in recognising clinically that a cow is distinctly suffering from Tuberculosis, in which case she may be yielding tuberculous milk. The milk coming from such a cow ought not to form part of human food, and indeed, ought not to be used as food at all.

"Our results clearly point to the necessity of measures more stringent than those at present enforced being taken to prevent the sale or consumption of such milk."

It is probably unnecessary here to say that the above statement, based on experimental evidence, corresponds closely with the best opinions of the most competent observers in the Medical and Veterinary professions. The detailed findings of the Commission follow very closely the findings of other research workers in the same subjects.

For practical purposes, then, there appears to be no doubt that milk does give rise to Tuberculosis in the human subject; and, as before stated, an appreciable amount of the supply sent into Birmingham is contaminated with this infection.

To enable your Committee to consider whether any further steps can be taken locally to prevent this source of Tuberculosis, certain other points need to be mentioned.

In the first place Tuberculosis in dairy cattle is very prevalent throughout the British Isles, and, indeed, in most other countries where these animals are housed for milk-producing purposes. The prevalence varies from nil

up to as high as 80 or 90 per cent. of dairy cows. In two large herds supplying milk to this City which were specially tested for Tuberculosis 22 per cent. of the cows in one herd, and 28 per cent. of the cows in the other, were found to be affected. It is probable that only a limited number of cows affected with Tuberculosis secrete milk which contains the germ of Tuberculosis, so that from the point of view of preventing Tuberculosis in the human subject by the use of infected milk and meat, the extent to which the disease is prevalent is only of indirect importance. While this is so, the disease is one which annually causes enormous loss to stock owners of this country, and therefore any procedure which is designed to protect the consumer of milk and meat should at the same time aim at limiting the loss occasioned to stock owners by the disease.

In 1896 a Royal Commission was appointed to enquire and report "what administrative procedures are available and would be desirable for controlling the danger to man through the use as food of the meat and milk of tuberculous animals; and what are the considerations which should govern the action of the responsible authorities in condemning for the purposes of food supplies animals' carcases or meat exhibiting any stage of Tuberculosis."

This Commission issued its Report in 1898. After making certain recommendations relating to meat inspection, slaughter-houses, and meat inspectors, the Commissioners make the following recommendations relating to milk:—

"MILK.

D.—DISEASES IN THE UDDERS OF COWS.

"7. We recommend that notification of every disease in the udder shall be made compulsory, under penalty, on

the owners of all cows, whether in private dairies or those of which the milk is offered for sale.

"8. We recommend that for purposes of excluding from their districts the milk of cows affected with Tuberculosis of the udder, or exhibiting clinical symptoms of the disease, local authorities should be given powers somewhat similar to those of Sections 24–27 of the Glasgow Police (Amendment) Act, with power to slaughter such cows, subject to compensation under the conditions named in the Report.

"9. We also recommend that powers shall be given to Local Authorities to take samples and make analyses from time to time of the milk produced or sold in their districts, and that milk vendors shall be required to supply sufficient information as to the sources from which their milk is derived.

"At ports where milk and milk products are received from foreign countries, any costs that may be thus incurred in their examination shall be borne by the importers.

E.—COWSHEDS, BYRES, ETC.

"10. We recommend that the Local Government Board be empowered to require Local Authorities to adopt regulations as to dairies, cowsheds, etc., where that shall be found not to have been done already.

"11. That in future no cowshed, byre, or shippon, other than those already registered, shall be permitted or registered in urban districts within 100 feet of any dwelling house, and that the discontinuance of any one already existing shall be ordered on the certificate, either of the Medical Officer of Health that it is injurious to the health

of human beings residing near it, or of the Veterinary Inspector that it is not a place wherein cows ought to be kept for the purposes of milk supply, and that it is incapable of being made so.

"12. That the conditions of the attached cowsheds that shall warrant the registering of a dairy in a populous place, whether technically urban or rural, in the future shall include the following :—

1. An impervious floor.
2. A sufficient water supply for flushing.
3. Proper drainage.
4. A depot for the manure at a sufficient distance from the byres.
5. A minimum cubic contents as regards such districts of from 600 to 800 feet for each adult beast, varying according to the average weight of the animals.
6. A minimum floor space of 50 feet to each adult beast.
7. Sufficient light and ventilation.

"While we have prescribed a minimum cubic contents and floor space without mentioning definite dimensions affecting ventilation and lighting, we are distinctly of opinion that these are by far the most important, and that requirements as to cubic and floor space are mainly of value as tending to facilitate adequate movement of air.

"Existing cowsheds should be obliged to conform to the prescribed regulations within a period of twelve months from the time of the regulations coming into force.

"13. The same conditions as those recommended for populous places should apply to cowsheds in sparsely

populated places, except in so far as cubic contents per cow are concerned; as regards these cubic contents, such space per cow should be provided as would, in view of the surrounding circumstances, secure reasonable ventilation without draught. But the physical circumstances prevailing in different localities being so various, we do not find it practicable to prescribe uniform minimum requirements in this respect.

"14. We recommend that where cows housed in one district supply milk to another district, the Local Authority of the district in which the cows are housed shall be bound, when required, to supply to the Local Authority of the district in which the milk is sold or consumed, full information and veterinary reports regarding the condition of the cows, byres, etc., whence the milk is drawn. Where the Local Authority of one district are dissatisfied with the reports so obtained, they may apply to the Local Government Board, with a view to an independent inspection and report being made.

"F.—ELIMINATION OF BOVINE TUBERCULOSIS.

"15. We recommend that funds be placed at the disposal of the Board of Agriculture in England and Scotland, and of the Veterinary Department of the Privy Council in Ireland, for the preparation of commercial tuberculin, and that stockowners be encouraged to test their animals by the offer of a gratuitous supply of tuberculin, and the gratuitous services of a veterinary surgeon on certain conditions.

"These conditions shall be:—

(*a*) That the test be applied by a veterinary surgeon.

(*b*) That tuberculin be supplied only to such owners as will undertake to isolate re-acting animals from healthy ones.

(*c*) That the stock to be tested shall be kept under satisfactory sanitary conditions, and more especially that sufficient air space, ventilation, and light be provided in the buildings occupied by the animals.

"16. We recommend that the Board of Agriculture in England and Scotland, and the Veterinary Department of the Privy Council in Ireland undertake the circulation among agricultural societies of instructions for the proper use of the tuberculin test, with explanation of the significance of re-action, and directions for effective isolation of re-acting animals."

Owing to the doubt thrown by Professor Dr. Koch on the danger arising from milk, practically no steps have been taken to put in operation the recommendations in question.

The suggestion as to the use of tuberculin under proper conditions is one which has been found to be eminently successful elsewhere. The Commissioners, after inspecting certain farms where it had been successfully carried out, described the method advocated by Bang in the following way :—

> "By merely separating, therefore, the sound from the re-acting animals, feeding the calves born from the first day of life on boiled milk, submitting once or twice a year the healthy animals to a fresh test, placing such as re-act on the other side of a partition, and purchasing only such animals that have stood the tuberculin test, he believes that in a few years a healthy herd may take the place of one that had been markedly affected."

The method recommended by the Royal Commission is not by any means the only method which is now being put in operation on a practical scale. To mention only one other method, Von Behring published in 1902 a method which has been largely utilised in Germany and the United States. It consists of vaccinating young animals so as to render them insusceptible to the disease.

TUBERCULOSIS IN THE HUMAN SUBJECT.

The extent to which death is caused by all forms of Tuberculosis is set out in the accompanying table, which is reproduced from the Annual Report of the Medical Officer of Health :—

DISEASE.	1895	1896*	1897	1898	1899	1900	1901	1902*	1903	1904	1905	1906
Abdominal Tuberculosis	66	61	57	64	78	104	131	92	113	107	94	68
Tubercular Meningitis	94	76	79	102	63	56	88	63	73	73	68	75
Phthisis ...	718	694	679	718	841	847	903	874	754	806	759	672
Other forms of Tuberculosis	127	121	122	70	96	71	83	64	85	85	78	69
Total deaths ..	1005	952	937	954	1078	1078	1205	1093	1025	1071	999	884
Mortality rate	2·02	1·87	1·86	1·87	2·10	2·08	2·30	2·04	1·93	2·00	1·84	1·62

Taking the last five years there were altogether 5,072 deaths, and these occurred at the following ages :—

Under 1 year	431
1 and under 5 years	487
5 ,, ,, 10 ,, ...	132
10 ,, ,, 15 ,, ...	91
15 ,, ,, 25 ,, ...	602
25 ,, ,, 45 ,, ...	1,966
45 ,, ,, 65 ,, ...	1,207
65 and upwards	156

* 53 weeks,

Deaths at ages from :—

TUBERCULAR MENINGITIS.

	0-1	1-5	5-10	10-15	15-25	25-45	45-65	65 up	Total
1902	21	33	3	4	1	—	1	—	63
1903	23	37	5	2	4	2	—	—	73
1904	21	32	9	4	3	1	3	—	73
1905	14	43	7	1	2	1	—	—	68
1906	13	38	17	2	5	—	—	—	75

TUBERCULOSIS OF LUNGS.

1902	4	14	12	9	130	419	255	31	874
1903	4	7	7	11	87	377	230	31	754
1904	5	21	5	9	109	376	259	32	806
1905	6	14	5	9	115	373	203	34	759
1906	2	13	10	8	89	325	204	21	672

TUBERCULOSIS OF INTESTINES.

1902	56	25	—	1	1	3	3	3	92
1903	67	28	7	3	2	4	2	—	113
1904	54	39	4	2	3	3	2	—	107
1905	45	38	3	1	3	3	1	—	94
1906	30	22	4	5	2	3	1	1	68

OTHER FORMS OF TUBERCULOSIS.

1902	17	21	5	4	8	5	4	—	64
1903	17	15	6	6	7	18	14	2	85
1904	13	21	11	6	5	19	6	4	85
1905	10	15	7	3	9	17	12	5	78
1906	9	11	5	1	17	17	7	2	69
Grand Totals	431	487	132	91	602	1966	1207	156	5072

It will be noted that Tubercular Meningitis and Tuberculosis of the Intestines are pecularly diseases of children under five years of age. No less than 78 per cent. of all the deaths from Tubercular Meningitis were of children under five years of age, while 85 per cent. of the deaths from Tuberculosis of the Intestines were of children under five years old. In the case of Tuberculosis of

the Intestines 53 per cent. were of children under one year of age. It has been pointed out that possibly the cause of this large incidence of Tuberculosis of the Intestines in young children is the milk supply.

Any table showing the total number of deaths does not give a very correct idea of the extent to which the disease is prevalent, because in children by far its most frequent types are those of bone disease, causing lameness for life, hunchback, etc., and glandular disease.

The points to which we respectfully wish to draw your Committee's attention are :—

1. That Birmingham milk, to the extent of probably over 10 per cent., is infected with Tuberculosis.
2. That there is a decided amount of danger to human beings from the consumption of this milk.
3. That recommendations have been made by a Royal Commission as to available means of reducing the prevalence of the disease.
4. That no direct steps are being taken at the present time other than the operation of the Milk Clauses in local Acts, to combat this source of human Tuberculosis.

We are, Gentlemen,

Your obedient Servants,

JOHN ROBERTSON, M.D.,
Medical Officer of Health.

JOHN MALCOLM, F.R.C.V.S.
Veterinary Superintendent.